

# Every Detail Solar

UTILITY SCALE SOLAR PANEL CLEANING



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WE GET A BETTER ROI ON OUR CLIENTS' SOLAR INVESTMENT WITH NO OUT OF POCKET COSTS!

# WHY IS EVERY DETAIL'S CLEANING PROCESS SO GOOD?

We drew from 34 years of cleaning experience when designing this cleaning machine.

Our (Softbrush™) was designed with an extremely lightweight material. It was purposely built for the task of cleaning solar panels, and that means less chance of scratching the glass..

The rubber strips are super soft squeegees that gently swipe away the dirt.

The reverse osmosis water filter removes minerals for a spot-free rinse. Typical hose water is between 300-1800 contaminates per million. We aim to be at 2 and no more than 20 contaminates per million.

Our smaller machines enable us to fit into rows where other machines would never fit.

We also do not rest the weight of our cleaning equipment on the panels like other cleaning options. When we were looking for equipment some exerted more than 400 pounds onto the glass panels. Our machine supports its own weight and ONLY the Softbrush™ is on the panels.





# SAFETY



The solar industry is booming. However, this is also an industry that comes with notable risks, particularly in terms of arc flash hazards, fire hazards and electrocution.

The risk is due to the DC circuits found within typical PV installations, which can both generate and sustain arcs. This is the reason why cleaning solar panels with classic water fed poles is extremely dangerous.

Our technology eliminates every risk. We never have to walk on, or even touch the solar panels. After 3+ decades in business, we have not had a single incident. We have never broken, or damaged a single solar panel. Every Detail Solar is fully licensed and insured. Our technology makes us stand out from our competitors.



## WHAT WILL BE THE INCREASE OF ENERGY CREATED AFTER CLEANING?

For the most part, back to factory projected production values.

With monthly service, energy production gains were at least 20% higher. Another customer reported a 60% gain after our efforts. We have had some panels with a larger gain because they were dirtier. We have photos to show examples of these projects and more.

Our customers who measure their production daily want us cleaning monthly because of production increases. Those production increases absorb all cleaning costs which are just a few %. NO out of pocket cost!

After our first cleaning, you will have all the information that you need to determine your gains and how much energy production that you have not been earning. The projected production values of the array is a good reference, but after your first cleaning and seeing your production jump is the absolute best way to know what you are missing out on.

# WHO ARE OUR CLIENTS?

- ☐ Utilities
- ☐ Installation Contractors
- ☐ Investment Managers
- ☐ City and County Municipals
- ☐ Operation and Maintenance Companies
- ☐ Property Managers
- ☐ Power Cooperatives
- ☐ Farmers
- ☐ Processing Plants
- ☐ Manufacturing Facilities
- ☐ Other Cleaning Contractors



## HOW DO OUR PRICES AND QUALITY COMPARE TO OTHER CLEANING SERVICES?

Our technology is 40 times faster than the 2 minute per panel average that I did for our initial base model for comparison. It took me 24 minutes to clean 12 panels after getting the brush and hose onsite. My shoulders were burning and there was no way I could make it down to the end of the row a quarter of a mile away. That was a very important 24 minutes.

We are currently averaging between 2-3 seconds per single panel with a small brush head and half that time with the larger brush for two panels.

By providing the best quality in the industry vs. other methods, such as robots, manual labor, and other machine technology, we ensure you we are never displaced due to price or quality.

We guarantee that we will beat anyone's price for this quality of cleaning. With a longer agreement we can reduce our rates until your budget and our pricing align perfectly.

We have built our business around quality, and this technology for efficiency, to earn your business.

Our technology will maintain the same rate of production as the day goes on. In many cases we get faster as we get into a rhythm.



## HOW DO OUR PRICES AND QUALITY COMPARE TO OTHER CLEANING SERVICES?

We create added value by being able to clean your array in whatever shape it happens to be in. Therefore, your production will not be reduced by having to place the system into a maintenance mode. When tracking systems are not tracking, a large amount of energy is NOT being generated on the days that the panels are being cleaned. In some cases, it takes weeks to clean a large field.

The cost of cleaning (no out of pocket cost) is just part of the picture. How much are we allowing our customers to earn compared to other cleaning options? It's a striking difference!

Our technology will not fatigue as laborers will, and as I did. As a result, the quality will remain consistent throughout. For any worker who is walking the miles upon miles of rows to be cleaned, they will wish they weren't, let alone also performing the labor-intensive task of cleaning.

When working out of town, we do not have a crew of 40 men performing the task, We just have a crew of two and sometimes one. Just the labor and lodging costs of those crews would likely exceed our entire invoice.





The background of the slide is a photograph of a large solar farm under a clear blue sky. In the foreground, a white cleaning vehicle is partially visible, with a sign that says "Every Detail". The vehicle is positioned in front of rows of solar panels. A large yellow and blue geometric shape is overlaid on the right side of the image, separating the header from the main text.

## WHAT GUARANTEES AND PROOF OF CONCEPT DO WE OFFER?

PRODUCTION GUARANTEE: WE GUARANTEE THAT YOU WILL BE PLEASED WITH THE QUALITY OF OUR WORK. IF YOU DISLIKE OUR FIRST ROW OF CLEANING, WE WILL LOAD UP AND THANK YOU FOR THE OPPORTUNITY AT NO COST TO YOU. WE ARE EXTREMELY CONFIDENT THAT WILL NOT HAPPEN.

In every case over the past 3.5 years, we have more than paid for our services with additional energy production. It typically takes just a few percent of increase to pay for our service. All of the rest goes to your bottom line.

When does it make sense for your array cleaning? To figure that out, take the factory projected production values the array is supposed to earn each month. Then you can compare that to your actual production. Any production gain over a few % is added to your bottom line! In most cases we have found monthly cleaning makes a lot of sense.

## Testimonials

### Brian Ball, Treehouse Almonds

"The quality of work that Every Detail has performed was exceptional, meticulous, just super work! After working with them for over 6 years I would highly recommend their company's work. I would add the knowledge and experience they bring to the workplace can not be matched"

### Kevin Bechenhauer, Bechenhauer Construction

"I have been using Every Detail for 13-14 years and the quality is top-notch, I wouldn't use anybody else, I don't have to babysit, I don't have to watch over their shoulder, I know that they will do the job I expect. All the work was completed on time (even when my schedule was too tight he managed to pull it off) they will work overtime, nights, they will do what they have to - to bring it in on time. If you want quality dependable service or work, then work with Steve, even my clients work with him, they like him he does what he says he will do."

### Cheryl Stonecipher Staiger Construction Co

"They do a wonderful job, very meticulous, very hard working, does a great job, the work was completed early, they worked around the clock to help us out of a pinch, I would highly recommend Every Detail, we have been working together for over 5 years"



## Testimonials

### Daniel Hartwig Wool Farming

Every Detail has performed excellent workmanship over the past 4 years. Nice people, they do what they say, and are very reliable. **Once they have cleaned our PV Panels we experience an immediate lift back to the factory projected production values.** In the past we were manually cleaning our panels and they were spotty and just not as clean. Whereas Every Detail comes in gets the work done much faster and cleaner. I would recommend Every Detail. They do very high quality work!



### Peter Albright Jacalitos Creek Pistachio

I am speaking for both Albright Enterprises as well as Wolf Farms.

Every Detail provides great work. Not only did they do an awesome cleaning on our PV panels; they gave us what I would call an inspection report on some of our panels that had been shot, wires were chewed, or panels were broken. Very helpful! Way above what they were paid for as a matter of fact. Their only problem is their attention to detail is over the top and probably charge less than what they should! I would highly recommend Every Detail!

### Santiago Lopez Neighborhood Church

Every Detail has done amazing work for us over the last 5 years, always within the time frame they say, they do what they say and more. One of the things that really stands out about their work is they bring so much knowledge and expertise by noticing other preventative maintenance issues they were not hired for that really should be taken care of. They even come up with solutions to these concerns so they don't become a problem. I would highly recommend them, love their workmanship, nothing but quality!

## Testimonials

### Jesse Velez- Chief Engineer USCS North

#### Matt Cuzick Wetsonville Produce

From all the research we had done, **Every Details' technology was found to be the best.** When they came in they went over their process, did the work they said they would do in a timely fashion and we were quite satisfied. I felt they were very knowledgeable and would highly recommend them for your Solar Panel cleaning!



I would highly recommend Every Detail for their excellent cleaning of our solar panels. Every Detail's process created an immediate lift in our production between 20-30%. **Back to the factory projected values of our panels.** In the past we have used manual labor for cleaning and found Every Detail's process much safer, less expensive, and solved all our safety concerns connected with manual labor. **Every Detail's cost was only about 2% of the production lift so basically their cleaning cost nothing out of pocket and the rest of our lift went straight to our bottom line.** Since we realized such a dramatic gain we have them set up for monthly cleaning. As they say it was a "no brainer."





# Thanks!

**Any questions?**

You can find us at

<https://www.linkedin.com/company/every-detail-solar/>

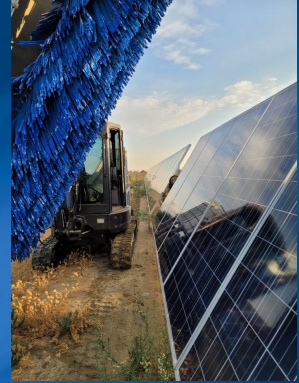
- Call, or text: 612-850-0618
- Email: [info@everydetailsolar.com](mailto:info@everydetailsolar.com)

<https://everydetailsolar.com/>

**CREATING RENEWABLE ENERGY WITH NO OUT OF  
POCKET COSTS!**

## The Value Of Our Water:

The importance of cleaning solar panels is becoming well-known by now. However, the need to clean with purified water may not be. Our filtration system can remove chemicals, minerals and other dissolved solids from your onsite water to ensure a spot-free rinse for less than a 1/2 cent per gallon. This extends to the value of efficiency. We are currently cleaning a full-size panel in just 2-3 seconds per panel. The exposure time is so minimal that we are using less than 1/2 gallon of this valuable resource to clean a heavily soiled panel. To clean a panel that has been regularly maintained, we use much less. By removing the minerals, we eliminate the possibility of creating shade on the panels with calcium deposits. To reduce the amount of water needed, we added a few features that other machine technologies do not employ. One neat feature is that we can turn our brush in either the forward or reverse directions. This allows us to always be pushing clean water towards the dirty panels ahead, using the water as a second pre-rinse as it cascades down the panel. To further reduce the amount of water required to rinse the panels, we spin the brush head to a specific number of revolutions per minute to sling the dirty water off with inertia to the splash guard. The dirty water then flows down small gutters on the splash guard away from the clean panels. A final rinse bar delivers an uncontaminated final rinse that is not found anywhere else in the industry.



## ARTICULATION, REACH, LOADS PLACED ON THE GLASS PANEL.

We designed the technology to be able to reach any panel configuration that we could encounter. The technology can track the sun all day without the need to put the panels into a maintenance mode that would reduce the energy produced, as part of the array would be in the shade during the cleaning. We can position our brush on either side of the machine and rotate the brush in either direction. Our brush is able to reach beyond obstacles like conduits or actuator arms without having to clean any panels by hand.

The entire brush head can be put up into the air above the panels for safe navigation on tight fields. The way our brush head hovers above the array instead of resting upon the panels is one very important aspect relating to putting loads on the panels they were not designed for. Some machines intentionally place hundreds of pounds of downward force on the panels to ensure the tips of their brush stays in contact with the surface of the glass as they drive down the rows. You can watch the panels flex under the load on their promotional videos online. All panels have a small acrylic sealer between the glass and the metal frame. Any flexing will challenge that seal. The other cleaning systems on the market frequently void the panels' warranty. Therefore, our design only allows for the weight of the ultralight brush panels to contact the glass surface. Would you want a 400 pound anything sitting on your solar array? I was so against the idea that I spent 3.5 years designing and building a machine that would not do so.



## Thoughtful Design for Safe and Efficient Cleaning

Moving a large machine around fragile glass panels has proven to be too much for a number of the companies that are currently cleaning. Many rely upon extremely large tractors to have enough stability to support their incredibly heavy brush assembly.

Our engineering helped us create an extremely light brush (Softbrush™) that does not require much weight to support it. The engineering on the metal structure weighs less than other brush options and allowed a very small base to easily support our featherweight brush. Our entire package is nearly half of the weight of some systems that we have seen. Our footprint is 5.5 feet wide, allowing us to fit into spaces that other equipment simply could not. Our tracks displace what little weight that we do have over a very large area, reducing soil displacement.

Round wheels tend to fall into holes and rise with gopher mounds affecting the load's place on the panels. As you might expect, the ground and panels are rarely on the same plane. Further changes due to imperfections of the ground make it extremely difficult for other designs to retain surface contact with the tips of their brush without a lot of downward pressure on the panels.

By involving 8 to 10 inches of brush material of our available 36–48 inch diameter brush heads, we are able to hover above the glass, having an uninterrupted surface contact, regardless of what the ground is like. Holes, bumps, and undulation adjustments are not issues for us at all.





# Brush Materials That Make A Difference

Most of the brushes used for cleaning solar panels were created for other industries. Every part of our brush system (Softbrush™) has been designed specifically for this application.

## Brush Specs:

- An extremely light and soft brush material that is 1/10 of the weight of brush materials being used by others.
- The lighter materials carry less energy when spinning.
- Very low revolutions per minute further reduces the amount of potential energy that could trap abrasive dust, scratching the glass panel.

We are using completely different technology for the way our brush cleans the glass. Most brushes being used for cleaning panels are using the tips of the brush which require more revolutions per minute. Our technology involves over 10 inches of each brush segment to squeegee the glass over and over. Swiping from the clean section of the glass towards the dirty surface without the need for speed. One of the most important aspects to consider is how rubber and plastic are made. Most brush materials have countless pores throughout them. They are caused by tiny air bubbles that are introduced during the manufacturing process. These pores will become impacted with the same dirt that is being removed creating an abrasive wet sander.





## Quality Matters

Not all cleaning companies are the same. We are remembered for the quality of our work. Our prices win us projects. Our attention to detail keeps our customers for decades. When shopping for technology to perform utility scale cleaning, we did not find any that we thought were well-suited for the task at hand.

Some machines were too large and cumbersome, some lacked needed details, leaving the surface of the panels less clean than we would want them to be if we had paid for the service. We want our customers to be smiling as big as we are as we look at our work. It is much easier to get paid that way and certainly easier to schedule the next cleaning. For 34 years we have been cleaning for our commercial customers. Our attention to detail has kept our calendar full. In the food industry, we were never allowed to make a single mistake. We have brought that same focus to this industry, as we know that arrays are worth millions of dollars.

Our customers have come to expect consistent quality at good prices. We are confident that you will be pleased with the quality and pricing of our work so much so we guarantee it!. ~ Steve Anderson









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