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The NABCEP Newsletter highlights activities about its certificants and other stakeholders. There is no fee for this newsletter which is distributed six times/year and published on [NABCEP's website](#).

If you have comments about this newsletter, email Jane Pulaski at janep@irecusa.org.

As always, thanks for your interest in and support of NABCEP.

Jane Pulaski
Editor

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From the Chair

By Ezra Auerbach



While I'm totally thrilled to see the NABCEP logo proudly displayed by Certificants and the companies which



employ them I'm also concerned about the "proper" usage of the logo's. I am going to devote this month's article to the use of

NABCEP logos. NABCEP has three registered trademarks, one for the organization, and two for Certificants.

The NABCEP logo is used to identify the organization, we use it on letterhead, pins and other promotional material. It is the NABCEP "brand" mark and appears in advertising, websites and the such. The Certificant logos, PV Installer and Solar Thermal Installer are for individual use and must always be used in conjunction with the Certificant's unique ID number. The purpose of this logo and indentifying number is to indicate that a particular individual – you? – is a Certified installer. It does not mean that your company

is endorsed by NABCEP or that other staff members are Certified (unless so indicated by additional names and ID numbers).

We welcome and encourage the appropriate usage of the NABCEP logos. Many companies support NABCEP by paying for the costs of the testing, others offer continuing education, they quite rightfully can use our brand logo in advertising and promotional material as long as the use of the logo is associated with a statement like; “company Y proud to be a NABCEP continuing education provider”. This company, would of course, offer a training seminar which was pre-approved for continuing education credits.

When referring to your individual certification status use the round PV or Solar Thermal Installer logo with you name and ID number. If you have multiple certifications you can use the logo for each one. If your company employees multiple NABCEP certificants they can list all of their names and ID numbers in advertising. If your company has multiple offices they can only use your logo and ID number in advertisements and promotional material for the offices you normally work from.

Many people have asked what to do if they see the logo used incorrectly. The basic answer is very simple, send NABCEP an example of the perceived misuse of the logo (fax, email, snail mail all work). Make sure that the example you send has contact information for the company or persons using the NABCEP logos. Our office will review the use of our logos, and if they are incorrectly displayed we will send the “offender” a short and friendly letter, not terribly unlike this column, outlining NABCEP logo usage policies and asking them to correct any usage of the NABCEP logo which doesn’t confirm to our policies.

The good news is that in all my years of activity in business and non-profits, I’ve never had a serious problem with logo usage once any incorrect usage was identified and explained. All of us at NABCEP appreciate everyone’s diligent efforts to protect the organizations name and reputation. Thanks in advance to anyone who sends us a copy of incorrect usage of our logo and trademarks.

Have a great holiday season, and a safe and prosperous new year.

Installer’s Corner: NABCEP Installers Keep NYSERDA Customers Happy

(Note: This article was previously written for a special NYSERDA newsletter published in September by Jane Pulaski)



Take a state with a robust renewable energy public fund, combine aggressive renewable energy goals, talented installers and satisfied customers, and you’ve got an enviable recipe for success.

It certainly is the story in New York.

“NYSERDA’s solar-electric or photovoltaic (PV) incentive program is successful because we work to closely with our system installers to provide them with training, help them develop good business practices, and are ensuring that they are committed to designing and installing high quality systems,” says Adele Ferranti, Senior Project Manager for NYSEDA’s PowerNaturallySM program. “Highly trained, efficient, reliable installers are they key to having happy customers who then become the programs best advertisers!”

From small, residential systems to large commercial installations, David Buckner, (Solar Energy Systems <http://solaresystems.com/pages/about.html>), Jeff Irish (Hudson Valley Clean Energy <http://www.hvce.com/>), and Jeff Wolfe (groSolar http://www.grosolar.com/the_company/), are three NYSEDA-approved photovoltaic (PV) installers keeping NYS customers very happy.

“Jeff Irish really knows what he’s doing,” says Mike Trimble. Irish installed a 3 kW PV system for the Trimble’s Rhinebeck home about two years ago. “He’s got the ability to take technical information and bring it to others who aren’t necessarily technically oriented. And he’s always been there when any problems have cropped up. NYSEDA’s got a great thing going.”

NYSEDA’s New York Energy \$martSM PV Incentive Program offers cash incentives for PV. “The incentives are available only for PV systems purchased through an eligible installer,” says Ferranti. “NYSEDA’s New York Energy \$martSM initiative currently has several programs that, when combined with the PV cash incentives and potential federal and State tax credits, could help offset the total installation costs of a PV system by 40-65%.”

Ferranti says that NYSEDA-approved PV installers are selected based on their training, experience installing grid-connected PV systems, references, professional affiliations, insurance. “We use the information provided on the installer application form to determine whether someone is qualified to be an eligible installer.”

Installer performance is continually monitored through inspections, customer feedback, and ability to meet all program terms and conditions. Installers may be removed from NYSEDA’s program if they do not meet the program requirements.

“We have great confidence in our program and our ability to work closely with installers on every installation” Ferranti said.

Not surprisingly, these installers have great confidence in NYSEDA.

“NYSEDA has been great to work with logistically,” asserts David Buckner, Solar Energy Systems. “Their efforts in outreach, marketing, and education help ease strains on a small business’ tight budget. NYSEDA’s website has been instrumental in funneling potential business to the right companies in the right locations.”

“NYSEDA’s website is our leading source of new customer inquiries,” concurs Irish.

Customers are the connector between NYSEDA and its installers. Their experience with an installer provides NYSEDA with critical information about process and performance.

“Installers are responsible for all paperwork required under this program,” says Ferranti. “We know fairly quickly if something isn’t working.”

Irish installed a 12kW PV system on Heinz Sauer’s roof in Rhinebeck a couple of years ago. “Jeff and his people were very knowledgeable. They handled all the interactions with NYSERDA. We were surprised how quickly and easily it went.”

Terry and David Galvin’s 1870’s house in Brooklyn is a continuous renovation challenge. “It’s one complication after another,” Terry said, “finding the right contractor and coordinating schedules. But David (Buckner) and Chris (Moustakis) adjusted their schedule to accommodate us. They came on a snowy Saturday in February, traipsed onto our roof, and helped us understand the process from start to finish. These guys were nothing short of brilliant.”

NYSERDA has reserved nearly \$23 million in incentives resulting in over 4 MW of residential and nearly 1.5 MW of commercial PV installations. While the incentives and tax credits are generous, homeowners still have out-of-pocket expenses to cover the balance of the system costs. However, that doesn’t seem to be a deal breaker.

“It seems the kind of person wanting to put out the money required for a PV system has already passed through a screen of being responsible to the world, sensitive to other people and just plain wanting to do the right thing,” says Irish.

groSolar’s Wolfe agrees. “Our customers are getting better informed each year,” he says, “and we’re getting better at informing them in easier, simpler ways. We’re always looking for those who are eager solar customers, not one who necessarily knows all about solar.”

“We continue to see the conviction of early adopters, like the Galvin’s,” says Buckner.

All customers seem to share one attribute: they *love* watching their meter spin backwards. That happens when the PV system produces more energy than the house consumes.

“We’ve experienced a number of months where we’ve generated more energy than we’ve produced,” says Martin Miller, Philmont, NY. “It’s not so much the money that we’re saving, but it’s the clean energy we’re producing.”

“There’s a huge incentive when you see that meter spin backwards,” says Chris Andersen, Ballston Spa, “to keep it up...to keep saving energy.”

Between them, Ferranti says, these three companies are responsible for installing about one-third of the PV systems for NYSERDA.

“So far, we’ve done about 51 installations within NYSERDA’s territory,” said Buckner. Buckner’s firm, Solar Energy Systems, designed and installed the PV awning system on the front of NYSERDA’s building. The system produces energy through three rows of 15 PV panels that help cool the building by shading the first floor lobby and a second floor conference room, reducing cooling requirements for these areas of the building.

“This was a challenging installation,” Buckner says politely, “due to its complexity and the distance from home.” Ferranti is more sanguine about the quality of Buckner’s work. “We had a thorny situation with another installation,” declared Ferranti. “Buckner jumped in and turned it around from certain disaster to absolute success. Like I said, it’s all about collaboration, and having great confidence in our installers.”

Irish’s Hudson Valley Clean Energy has installed the most PV systems for NYSERDA. “Installed and scheduled, we’ve done close to 200 systems,” he says. “Our customers are all so nice, seriously.”

Wolfe’s groSolar, who is an installer, dealer and distributor, has installed about 60 PV systems. “The solar industry is changing so rapidly,” says Wolfe, “that it’s critical to have a secure and steady supply of product to best serve our customers. As a distributor, we can take advantage of volume agreements which ultimately benefit our customers.”

Each of these companies has NABCEP-certified installers, and low employee turnover, a good indicator of a strong, solid business.

“NABCEP certification benefits both installers and consumers,” says Ferranti “because it identifies installers as professionals, allowing them to distinguish their skills and experience in the field, and ultimately instilling consumer confidence in their work. I hope to someday see all participating installers be NABCEP certified and NYS to have 6-8 ISP accredited training programs across the State,” she said.

“Currently, we have about 25 employees,” said Irish. “We seem to have developed the right policies and training so that we don’t experience much turnover anymore.”

“We’ve got about 50 employees,” said Wolfe. “And our turnover is fairly low.”

By all accounts, NYSERDA’s Energy SmartSM PV Incentive Program continues to be a model for successful incentive programs nationally. “I think our PV incentive program, supported by installer training activities, is off to an excellent start with over 1,000 systems funded and nearly 110 participating installers,” said Ferranti. “Ideally, funding for our incentive program will be increased and we will have commercial net metering in the future, allowing us to provide funding for larger systems and more PV systems per customer.”

Ferranti says that NYSERDA has been approached by manufacturers, grocery stores, and third party investors that are looking to install 50-100 kW systems on as many as 10-12 sites across the State.

“We’re continually trying to develop new standards and hit new benchmarks with our programs,” said Ferranti. “Ultimately, it’s all about collaboration. We really depend on our installers to help us reach out and educate more customers about NYSERDA. In fact, our PV customers have become our greatest marketing tool for PV.”

Wolfe concurs. “It’s been particularly fun to create new ways to bring solar to more people and companies, and to break down some of the traditional solar stereotypes.”

Irish, a former business general manager at GE under Jack Welch, started Hudson Valley Clean Energy in 2002 for something completely different. “I wasn’t really looking for another full time job, but it’s turned into that more and more. Now I feel like I really do bring good things to life,” he laughs.

Featured Certificant: Allan Sindelar, Positive Energy, Santa Fe, NM



Allan Sindelar, founder and president of Positive Energy, has been involved with solar energy for nearly 30 years. In the 1980’s, Allan worked with Amory and Hunter Lovins at the Rocky Mountain Institute where he installed his first solar PV system while living at the Lama Foundation in Northern New Mexico. Allan sits on NABCEP’s PV Technical Committee, and is on the advisory board of the New Mexico Solar Energy Association. Allan holds an Associate’s Degree in Construction Technology from Linn-Benton Community College in Albany Oregon, and a bachelor’s degree in Environmental Studies at John F. Kennedy University in Orinda, CA. He and his wife, Johanna, are raising and home schooling three children without utility power or television south of Madrid, New Mexico.



NABCEP: Allan, you’ve been in solar for about 30 years now. You’ve seen it go from the domain of hippies to a more sophisticated, savvy consumer and industry. Do you find consumers more aware today, asking better, more informed questions about the technology than just a few years ago?

AS: The catalyst event that turned my life toward renewable energy was in 1977. Up to then, I had been trying to save the world as a bicycle mechanic. I was hitchhiking to the local community college in Albany, Oregon, because I had heard that the courses I wanted were cheaper there than at Oregon State. Henry H. Knapp, the “Alternative Energy Sources” instructor, picked me up, and I eventually took all the RE classes that were offered.

I saw my first PV module in 1981, built my first system in 1989, took the first “Advanced PV” SEI class in 1990, and was first employed in the field in 1993. I started Positive Energy in 1997 by buying solar pioneer Windy Dankoff’s retail business. When I began, 98% of PV was off-grid, licensure was a new concept for PV installers, and most inspectors generally just checked the grounding, because that the part that was familiar to them. Now, some 80% of our business is grid-tied, and it would be more if we didn’t have a large and loyal off-grid customer base.

It was always an “alternative” path in the early decades and that was what initially drew me in. I kept waiting for the mainstream consciousness and our political leaders to realize the inherent superiority of renewables – I’m still waiting, I guess. Now the industry is rapidly maturing, and that’s necessary and good.

Grid-tied systems are a mainstream application, and we respond accordingly, with fixed-price turnkey packages. Most of our customers are green-motivated “early adopters” but we see more and more of them. Customers are generally more aware of PV’s existence, and have a generally favorable impression of it. The “solar doesn’t work” stigma left over from the Carter-era tax credits (which in New Mexico were combined with overly-generous state incentives that invited abuse) has finally passed. Still, we often find ourselves explaining the difference between capturing the sun’s heat and turning sunlight into power.

NABCEP: How has your business grown? Where do you spend most of your time these days?

AS: When I started Positive Energy, the common understanding was that PV power was a do-it-yourself thing, along with building your own remote home. Over the years, the systems became larger and more complex, and the NEC became more influential. The do-it-yourself contingent has gotten smaller and smaller.

In 2003, I took two equal partners, Randy Sadewic and Mark Drummond, into the business. Mark brought his extensive high-tech field service experience, and Randy his CPA and CFO experience with a tech company, to Positive Energy. The partnership has brought new life and a solid foundation for current growth. As the business has grown the roles have specialized. I have primary responsibility for the off-grid work, the existing customer base, upgrades and service on older systems, and less common stuff.

NABCEP: What have been some of the biggest obstacles to more solar installations in New Mexico? I understand you’ve been involved with net metering and interconnection issues in NM.

AS: New Mexico has retail net metering and a utility RPS. We also have a well-crafted state tax credit that is designed to wrap around the federal credit with its \$2,000 cap, extending the cap to \$11,000 and letting it carry forward for ten years. So we will be less affected than most states if the federal credit isn’t renewed. Still, we have relatively low utility rates, and most of the state is served by electric cooperatives, which are closely tied to traditional supply perspectives.

Our Public Regulatory Commission has accomplished much in the last decade to support renewables, and I was just involved in a series of workshops to completely revise the technical interconnection standards for systems of all sizes, from small residential to large centralized plants. My unofficial role was to represent the interests of the installers of smaller residential and commercial systems, up to around 100 KW. The result of that work just went out as a Notice of Proposed Rulemaking.

The most significant barrier to PV for large scale adoption is readily-available low-cost financing that brings the monthly cost to the purchaser down to around \$30 per month. For new construction this monthly cost goal is attainable now, but there hasn’t been significant implementation, because of both a lack of customer pull and the slow rate of

adoption by the construction industry. The other major barrier is the lack of a statewide REC program, applicable to all utilities, without caps that limit commercial systems to small systems.

NABCEP: Do you feel NABCEP is a market advantage for you? Do you let your customers know about NABCEP?

AS: Generally, each new customer comes in fresh, with an interest and a need to be educated. We use NABCEP certification to set us apart from our competitors, but we initiate any discussion of the importance of certification. And that's OK; public awareness of certification is a long-term effort. I have long considered part of my job description to be increasing the professionalism of the entire PV industry where I can, and from the start, NABCEP has been a key venue for this. So our NABCEP certification gives us a marketing advantage, even if we have to explain what it means. I've been on the NABCEP technical committee since 2001, and introduced and defended the concept of national certification to the RE-Wrenches e-mail discussion forum.

Also, with the recent and sudden growth in public interest in PV, new installers are getting in the business. Many homeowners are wed to the assumption that someone who claims to know solar actually does. Ours is a highly technical field, and few homeowners can tell the difference between a mediocre system and a properly designed, safe, professional installation. It's pretty easy to install a mediocre system that "works" and most homeowners won't know the difference. This has always been true, with both off-grid and grid-tie. We use certification as one of a set of marketing tools to counter the common public perception that anyone with a business card can install a PV system.

NABCEP: What has surprised you the most about the business?

AS: AS: I had never had much experience as a manager, and I had had employees come and go, including some who were highly skilled. In 2003, I lost a key employee who had been with Positive Energy for 5½ years. Some of our readers know Phil Undercuffler, now the head of tech support at Conergy. When he moved on, I was alone again, facing a heavy workload and pretty burnt out.

So I quietly put out the word that I'd like to sell part of the business. I initially contacted the RE program at San Juan College in Farmington, New Mexico. Instead of selling part, I got two highly competent men in San Juan College's RE Certificate program, unknown to each other previous to the program, who were each pursuing a career change and wanted a chance to create a conscious business with humane, sustainable values. We became equal partners in 2004. This has enabled me to let go of doing what was most stressful, and we were all able to concentrate on our areas of strength. Incidentally, both men became NABCEP Certified Installers in 2006.

The first surprise is that it has worked so well. A partnership is much like a marriage, except that we spend more waking hours together! Being a techhead without much business or management experience, I had taken Positive Energy about as far as I could. It's since become larger, more organized, and a more satisfying place to work. We've opened a satellite office to serve the southern part of the state – something I couldn't have imagined. The second surprise is that I have sort of fallen into the role of

“elder advisor”, without all of the burdens and long hours of keeping the business operation going. It’s still full time, but more varied and challenging. I enjoy the relationships I have developed with very interesting clients, some for more than ten years. The work has become pretty enjoyable.

Manufacturer’s Musings: Arthur Rudin, Sharp Solar

SHARP.



As Sharp Solar’s Director of Engineering, Arthur Rudin and his group are responsible for product development, product design, and systems integration. Not only do they provide technical training and customer training for Sharp products and systems, but are involved in all the different aspects related to the support and installation of its products in North and South America

I asked Arthur recently about PV nameplate ratings, and how that issue is affecting companies like Sharp Solar.

NABCEP: Arthur, how has nameplate rating for PV products traditionally occurred?

AR: Traditionally, PV manufacturers have been responsible for rating their products under ideal factory conditions—a solar simulation is used to test the modules under simulated peak sunlight conditions. The equipment used to test solar modules can vary by manufacturer. The test conditions include a cell temperature of 25 degrees centigrade and irradiance of 1000W per square meter with AM-1.5 spectrum, in accordance with IEC904 standard. Critical to rating is the calibration of the equipment. Calibration determines output or nameplate rating of product.

NABCEP: It sounds like EPA and how they derive their fuel economy ratings. As consumers, we’re familiar with how those published ratings don’t always mesh with actual usage.

AR: Exactly. Years ago, customers, end users, were very skeptical about product ratings, especially when product manufacturers performed their own testing. Customers are definitely concerned about performance, whether it’s for their car or their PV panels.

NABCEP: So what’s going on with product testing now?

AR: This year, most manufacturers started performing independent product testing through laboratories, but it wasn’t mandatory. Starting in 2008, however, California will require independent third party testing to validate the nameplate rating of the product. For lots of companies, like Sharp, that’s a good thing because it demonstrates that our products perform as represented to the customers.

NABCEP: Is this an issue internationally?

AR: International standards already encompassed nameplate rating validation. We look forward to the time when standards will merge resulting in a true international certification.

NABCEP: How will California consumers know if the product they're interested in has been independently tested? How can they be sure of its performance?

AR: If a product ends up on the CEC's list (New Solar Homes Partnership) of approved products, consumers can be confident that the nameplate rating validation was conducted by an independent third party. Consumers can be confident that it will perform to their expectations. It also keeps the manufacturers focused on making products that meet or exceed customer expectations. We're sensitive to what happened to the solar thermal industry in the 1980s because of customer expectations that weren't met.

For a company like Sharp, we're very enthused to support these programs and are working to ensure consumers confidence by the performance of the products.

Featured Board/Technical Committee Member: Andy Kruse, Southwest Wind Power

Southwest Windpower
Renewable Energy Made Simple

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Andy Kruse, Executive VP of Business Development for Flagstaff's Southwest Windpower, is focused on building the small wind business into an industry. Southwest Windpower distributes in more than 88 countries, and is the world's largest producer of small wind generators (400-3000 watts).

Andy's involvement at Southwest Windpower is varied, from marketing and sales to policy development, from dealer education to research and development on the technology, to developing small wind standards, Andy is continually on the run.

He's been on NABCEP's Small Wind Technical Committee for two years.

"NABCEP has been an asset in my work," says Kruse. "As an education program, NABCEP has improved the quality of our dealers and how they install small wind turbines. This is important whether it's for my products or my competitor's. The more good installations there are, the faster the market will grow."

Kruse believes that the launch of NABCEP's small wind program is crucial to the long term success of the small wind industry. "Our challenges feature the continuation of the development of the small wind standard," he says.

Entry Level Certificate Program Update

By Karen Christopher

In January, Tom Chatagnier of Diablo Valley College, a NABCEP Entry Level Certificate of Knowledge Provider from Pleasant Hill, California, will be offering his Photovoltaic Systems Design and Installation course to community college instructors from the State of California.

These instructors will then return to their colleges to develop a similar course. Hopefully, all will apply for approval so they can also offer the NABCEP Entry Level Exam. Diablo Valley College is the only community college in California now approved, and this could really jump start NABCEP's visibility in and around California.

The organization promoting this "train the trainer" course is the "Advanced Transportation Technology and Energy" group from the California Community College system.

Continuing Education/Recertification

By Karen Christopher

NABCEP welcomes its latest Continuing Education Providers:

Fat Spaniel Technologies of San Jose, California has been approved to offer a 6 CEU course: *Basic Monitoring System Installation*.

And in New York, Dr. Gay Canough has taught a sold-out Commercial PV Design, Specification, and Planning 7 CEU course offered by NYSEIA.

For information on these and other NABCEP PV and Solar Thermal Continuing Education courses, refer to the *Continuing Ed & Recertification* section of www.nabcep.org.

Employment Opportunities

Looking for work or qualified employees in the solar thermal or PV industry?

Whether potential employee or employer, this is where NABCEP will help you match your need under the [NABCEP Job Board](#)

Send any and all job announcements to Jane Pulaski at janep@irecusa.org.

Other News

[Workforce Education Conference](#)

March 17-20, 2008 Hudson Valley Community College, Troy, NY

If you haven't already marked your calendar, now's the time. The Interstate Renewable Energy Council (IREC) announces the second National Conference on Renewable Energy and Energy Efficiency Workforce Education to take place the week of March 18, 2008 at Hudson Valley Community College outside of Albany, New York.



This conference builds on the first Workforce Education Conference which was held in November 2006. Conference sessions will be addressing best practices and teaching models for a wide variety of renewable energy and energy efficiency job sectors and will focus on instructional strategies, curricula development and related practitioner training and market trends. There will be a series of technical workshops before the conference starts and an exhibit during the conference.

Once again, the conference will offer low registration fees. Registration will open in November.

- * \$195.00 – By February 1, 2008
- * \$295.00 – After February 1, 2008
- * \$125.00 – 1 day only
- * Discount Registration for 2 or more registrants from the same institution - \$150/person February 1, 2008
- * Discount Registration for 2 or more registrants from the same institution - \$250/person – after February 1, 2008

Workshop and exhibit fees will be announced later.

The Conference is sponsored by the New York State Energy Research and Development Authority and organized by the Interstate Renewable Energy Council, the Partnership for Environmental Technology Education and Hudson Valley Community College. Participating Organizations are the Advanced Technology Environmental Education Center, National Energy Education Development Project, American Solar Energy Society, Renewable Energy Access, North American Board of Certified Energy Practitioners, American Council On Renewable Energy, American Association of Community Colleges, and the National Joint Apprenticeship and Training Committee.

For more information, please contact Jane Weissman at IREC at jane@irecusa.org or weissmanpv@aol.com or 781-461-8167.

NABCEP Operations Manager Karen Christopher asks that all Certificants check out their listings on www.nabcep.org to ensure their contact information is accurate when consumers access the clickable map. Also, please note we are now able to associate websites with our Certificants, so please send an email to kchristopher@nabcep.org if you wish to have any of your information updated.

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The NABCEP News, an electronic newsletter published six times/year, serves the NABCEP-certificant and stakeholder community. There is no fee for this newsletter.

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