

Solar Tech Empowers Consumers to Get off the Grid

What if each of the 146 million U.S. electric customers could generate their own electricity?



Pinal County, Ariz., Copper Crossing Solar Ranch uses 66,000 solar panels. Salt River Project

By James Osborne

In the more than 130 years since Thomas Edison released the electric light bulb on the world, households have more or less gotten electricity one way. Build a power plant, string power lines in all directions until you've connected as many homes and businesses as possible, repeat.

But in a nondescript white brick house a few miles outside downtown Houston, there is no need for a distant power plant spinning on a steady burn of coal or maybe radioactive uranium.

One moment the lights and home appliances are humming along like those in any building. Then, for a fraction of a second, the lights dim and the room goes quiet. Joe Coffey, an engineer with NRG Energy who spends his days testing out devices like portable solar panels and water heaters you put on your roof, has cut the house off from the power grid.

Only, the air conditioner is still running, as are the lights. In place of the grid — or the standard gasoline-powered backup generator — is a battery

array in the garage and solar panels on the roof. On the patio, where the grill should be, sits what is essentially a 5-foot-tall miniature power plant hooked into the natural gas line.

"A lot of this stuff, it's going to be years before it can be delivered to customers cost-effectively. But it's like anything. There's going to be early adopters, and we want to be ready," Coffey said.

The U.S. by and large runs on a network of more than 7,300 power plants, including 1970s-era coal plants, wind farms in West Texas, the Hoover Dam, nuclear reactors at Comanche Peak and more. The facilities are large and often away from population centers, each supporting on average 20,000 customers across millions of miles of power lines. But what if each of those 146 million U.S. electric customers could generate his or her own electricity?

Historically, generating electricity was expensive, and there were cost savings in size. But with the advent of new technology — known as "distributed generation" within the industry — the prospect of cost-effectively generating electricity at home is moving beyond the realm of science fiction.

Solar panels, for a long time so grossly expensive only hard-core environmentalists would buy them, are now being mass-produced in China. With government incentives, solar power can now compete with the power grid in 10 states, according to analysis by NRG.

And then there are home battery systems, potentially upending the need for a constant flow of electricity from the grid. Tesla founder Elon Musk is building a battery factory in Nevada so large he calls it a "gigafactory." Fuel cells, which can be powered by hydrogen, natural gas and other substances, are no longer just for space missions. They're finding their way into talking points of forward-looking CEOs.

"Distributed generation is already in California. It's not the future; it's real," said Michael Webber, deputy

■ Continued on page 4

SMALL BUSINESS EXCHANGE

SBE OUTREACH SERVICES

With 1.5 million businesses in our database, SBE is California's #1 source for diversity outreach.

Advertisements

Placed in the Small Business Exchange newspaper, SBE Today newsletter, and online at www.sbeinc.com

Faxed and Eblast Solicitations

Targeted mailings sent to businesses per your criteria.

Telemarketing

Telephone follow-up calls that follow a script of 5 questions you create.

Computer Generated Reports

Will fit right into your proposal, along with a list of interested firms to contact.

Contact Info:

703 Market Street, Suite 1000
San Francisco, CA 94103
Email: sbe@sbeinc.com
Website: www.sbeinc.com
Phone: (415) 778-6250, (800) 800-8534
Fax: (415) 778-6255

Publisher of
Small Business Exchange
weekly newspaper

California Sub-Bid Request Ads

Parsons

100 West Walnut Street • Pasadena, CA 91124
 Phone: 626-440-2000 • Fax: 626-440-2630
 Contact: Leonor Deguchy
 leonor.deguchy@parsons.com

Seeking Qualified MBE, DVBE, DBE, WBE,
 City of San Diego ELBE, SLBE Subcontractors

**Request for Proposal For
 Construction Management Services for
 City of San Diego
 Construction Management Services for
 Miramar Clearwell Improvements
 For the Public Works Department
 Contract No. H156522
 Location San Diego, CA
 Bid Date: August 7, 2015 @ 4:00 PM**

Trades: 236210 Industrial Building Construction; 237110 Water and Sewer Line and Related Structures; 541330 Engineering Services; 541350 Building Inspection Services; 541360 Geophysical Surveying and Mapping Services; 541370 Surveying and Mapping (except Geophysical) 541611 Administrative Management and General Management Consulting Services; 541618 Other Management Consulting Services; 541690 Other Scientific and Technical Consulting Services (Paleontology)

Interested companies should email a brief statement of qualifications to leonor.deguchy@parsons.com. We will assist interested firms in obtaining bonds, lines of credit and/or insurance if necessary.

An Equal Opportunity Employer

McGuire and Hester

9009 Railroad Avenue • Oakland, CA 94603
 Phone: (510) 632-7676 • Fax: (510) 562-5209
 Contact: Kevin Exberger

Sub Bids Requested From Qualified
 LBE Subcontractors & Suppliers for
City of San Leandro

**Siempre Verde Park Rehabilitation Project
 Project No. 2015.0270
 Location: San Leandro, CA
 Bid Date: August 3, 2015 @ 3:00 PM**

McGuire and Hester is seeking qualified subcontractors in the following trades: court surfacing; trucking; waterproofing; tree demolition; electrical; fencing; masonry; misc. metals; play equipment installation; restroom building; safety surfacing; sandblasting; surveying; and well work.

We will pay up to and including one and one-half percent (1-1/2%) of your bonding cost. Certification assistance is available, as well as viewing plans and specs.

ATKINSON CONTRACTORS, LP

Requests

Sub-bids from All Qualified & Certified DBE Subcontractors/Suppliers
 for:

Caltrans Contract No. 08-3555V4

**Construction on Rte 15 in San Bernardino County
 in Victorville**

**from 0.5 Mile North of Mojave Drive to 1.5 Mile
 North of Stoddard Wells Road Overcrossing**

Bids Wednesday, August 5, 2015

Description of Work and Material Supply (but not limited to):

Aggregate Base, Architectural Treatment, Asphalt Paving, Biologist, Clear & Grub, Concrete Barrier, Concrete Paving, Construction Area Signs, Demolition, Drainage, Earthwork, Drilled Piling, Driven Piling, Electrical, Environmental Services, Erosion Control, Fencing & Railing, Flatwork, Guardrail, Imported Borrow, Irrigation, Joint Seal, Landscaping, Pavement Marking, Maintenance of Traffic, Minor Concrete, Misc Iron & Steel, Overhead Sign Structures, Painting, Pipe Supply, Precast Prestressed Concrete Girders, Rebar, Retaining Wall, Road Barrier, Roadway Joint Seal, Roadway Sign, Rock Slope Protection, Sewer, Shotcrete, Signal and Lighting, Soil Nail Wall, Soundwall (Masonry Block), Street Sweeping, Structural Concrete, Structural Steel, Survey, SWPPP, Traffic Control System, Traffic Monitoring Stations, Trucking, Wireless Vehicle Detection System
(Refer to project specs for complete bid item list). This project has a 12% DBE Goal.

Atkinson Contractors, LP

18201 Von Karman Ave, Suite 800. Irvine, CA 92612

socal.estimating@atkn.com

Phone: 949-855-9755 / 949-382-7145 • Fax: 949-855-9923 / 949-553-0252

Contact: Andrew Nelson

Atkinson is a union contractor and an Equal Opportunity Employer. 100% Performance & Payment Bonds from an approved surety company will be required for subcontractors greater than \$100,000. Atkinson will pay the cost of bonds up to 1.5%. Atkinson will assist in obtaining necessary equipment, supplies, materials or related services. We will split items of work (refer to project specs for full list of bid items) and provide assistance for bonding, LOC and insurance where needed. Subcontractors will be expected to sign Atkinson's standard subcontract and to comply with our company's standard insurance requirements which include a waiver of subrogation. Subcontractors must provide contractor's license number and Department of Industrial Relations (DIR) registration number with their quote.

TO DOWNLOAD PLANS, SPECS AND SUPPLEMENTAL INFORMATION:

Please go to http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/08/08-3555V4/

RGW Construction, Inc.

Contractors License A/B 591940

550 Greenville Road • Livermore, CA 94550 • Phone: 925-606-2400 • Fax: 925-961-1925

An Equal Opportunity Employer

RGW Construction Inc. is seeking all qualified DBE (Disadvantaged Business Enterprises) for the following project:

City of West Sacramento Public Works, Village Parkway Extension Project

City Work Order No. 15024

DBE Goal: 7%

Engineer Estimate: \$5,190,270 – Working days 220

Bids: August 4th, 2015 @ 2:00pm

Requesting Sub-quotes for (including but not limited to: Fabrics and Oils, Construction Area Signs, Traffic Control, Raise Iron-Utilities, Clear and Grub, Roadway Excavation, Landscaping, Hydroseeding, Erosion Control, Irrigation, Aggregate Base, Slurry Seal, Asphalt Paving, AC Dike, Signs Roadside, Concrete Curb & Sidewalk Misc., Thermoplastic Traffic Stripe & Marking, Signal & Lighting, SWPPP Planning, Water Truck, Sweeper, Hazardous substance removal, Trucker, Storm Drain (Underground), Stamped Asphalt and Stamped Concrete.

Scope of Work: Extend roadway and connect existing area roadways with two roundabout intersections. RGW is willing to breakout any portion of work to encourage DBE participation. Contact us for a specific item list.

Plans and Specs are available to view and copy at our office or Dynamic Imaging (Plan Smart) 916-782-8070, <http://disacramento.com.home.htm>. Contact Andy Eldridge 925-606-2400 andrew.eldridge@rgwconstruction.com for questions, including bonding, lines of credit, or insurance or equipment or material suppliers. Subcontractors should be prepared to submit payment and performance bonds equal to 100% of their quotation. For bonding and other assistance, please call.

California Sub-Bid Request Ads

O.C. Jones & Sons, Inc.

1520 Fourth Street • Berkeley, CA 94710 • Phone: 510-526-3424 • FAX: 510-526-0990
 Contact: Greg Souder • An Equal Opportunity Employer

REQUEST FOR DBE SUBCONTRACTORS AND SUPPLIERS FOR:

Healdsburg Intermodal Facility Phase 1
Sonoma County Department of Transportation
Federal Project No. CA-03-0577H
County Project No. WO 7018
REVISED BID DATE: July 29, 2015 @ 2:30 PM

We are soliciting quotes for (including but not limited to): Trucking, SWPPP, Traffic Control System, Temp. Fence, Clearing & Grubbing, Tree Removal, Tree Protection, Select Fill, Remove and Salvage Water Meter, Domestic Water Service, Underground, Erosion Control, Rock Slope Protection, Minor Concrete, Dry Stack Retaining Wall, Cathodic Protection, Field Inlet Detail System, Storm Drain, Fire Hydrant, Fencing, Electrical, Striping & Marking, Roadway Signs, Landscaping & Irrigation, Galvanized Steel Railing, Bollards, Site Furnishings and Construction Materials

100% Performance & Payment Bonds may be required. Worker's Compensation Waiver of Subrogation required. Please call OCJ for assistance with bonding, insurance, necessary equipment, material and/or supplies. OCJ is willing to break-out any portion of work to encourage DBE participation. Plans & Specs are available for viewing at our office.

DeSilva Gates Construction

11555 Dublin Boulevard • P.O. Box 2909
 Dublin, CA 94568-2909
 (925) 829-9220 / FAX (925) 803-4263
 Estimator: Victor Le
 Website: www.desilvagates.com
 An Equal Opportunity Employer

DeSilva Gates Construction, L.P. is soliciting for DBE for the following project:

FOR CONSTRUCTION ON STATE HIGHWAY IN PLACER COUNTY NEAR LINCOLN FROM 0.1 MILE WEST TO 1.0 MILE EAST OF CLARK TUNNEL ROAD, CONTRACT NO. 03-4E8604, FEDERAL AID PROJECT ACHSSTP-P193(012)

OWNER:
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 1727 30th Street, Bidders' Exchange, MS 26,
 Sacramento, CA 95816

BID DATE: August 13, 2015 @ 2:00 P.M.

We hereby encourage responsible participation of local Disadvantaged Business Enterprises, and solicit their subcontractor or materials and/or suppliers quotation for the following types of work including but not limited to:

AC Dike, Biologist Consultant, Box Culvert, Wing-wall, Clearing and Grubbing/Demolition, Construction Area Sign, Temporary Clear Water Diversion, Erosion Control, Fencing, Cable Railing, Landscaping / Irrigation, Lead Compliance Plan, Treated Wood Waste, Midwest Guardrail System, Minor Concrete Structure, Roadside Signs, Striping, SWPPP / Water Pollution Control Plan Prepare / Water Quality Sampling, Monitoring & Report, Temporary Erosion Control, Underground, Vegetation Control, Trucking, Water Trucks, Street Sweeping, Class 2 Aggregate Base Material, Class 3 Aggregate Base Material, Hot Mix Asphalt (Type A) Material, Rubberized HMA (Open Grade) Material

100% Performance and Payment Bonds may be required for full amounts of the subcontract price. Surety company will have to be approved by DeSilva Gates Construction, L.P. DeSilva Gates Construction, L.P. will pay bond premium up to 2%. Subcontractors must possess current insurance and worker's compensation coverage meeting DeSilva Gates Construction, L.P.'s requirements. Please call if you need assistance in obtaining bonding, insurance, equipment, materials and/or supplies. Plans and specifications are available for review at our Dublin office.

Granite Rock Company

120 Granite Rock Way, San Jose, CA 95136
 Phone (408) 574-1400 Fax (408) 365-9548
 Contact: Paul Brizzolara
 Email: estimating@graniterock.com
 We Are An Equal Opportunity Employer

REQUESTING SUB-QUOTES FROM QUALIFIED SBE SUBCONTRACTORS/SUPPLIERS/TRUCKERS FOR:

Downtown San Jose and City Hall BRT Stations Contract
Contract No.: C837 (15156)
Owner: Santa Clara VTA
Engineers' Estimate: \$1,200,000.
BID DATE: July 30, 2015 @ 3:00 PM

Items of work include but are not limited to: Electrical, Striping, Construction Area Signs, Minor Concrete, Clearing, Grubbing, Trucking, Slurry Seal and Traffic Control.

Granite Rock Company 'Graniterock' is signatory to Operating Engineers, Laborers, Teamsters, Carpenters and Cement Masons unions. 100% performance and payment bonds will be required from a qualified surety company for the full amount of the subcontract price. Bonding assistance is available. Graniterock will pay bond premium up to 1.5%. In addition to bonding assistance, subcontractors are encouraged to contact Graniterock Estimating with questions regarding obtaining lines of credit, insurance, equipment, materials and/or supplies, or with any questions you may have. Subcontractors must possess a current contractor's license, insurance and worker's compensation coverage. Subcontractors will be required to enter into our standard contract. Graniterock intends to work cooperatively with all qualified firms seeking work on this project.

Granite Rock Company

120 Granite Rock Way, San Jose, CA 95136
 Phone (408) 574-1400 Fax (408) 365-9548
 Contact: Paul Brizzolara
 Email: estimating@graniterock.com
 We Are An Equal Opportunity Employer

REQUESTING SUB-QUOTES FROM QUALIFIED SBE SUBCONTRACTORS/SUPPLIERS/TRUCKERS FOR:

Montague Expressway and South Milpitas Boulevard Improvements
Contract No.: C640 (15014)
Owner: Santa Clara VTA
Engineers' Estimate: \$25,000,000.
BID DATE: August 5, 2015 @ 2:00 PM

Items of work include but are not limited to: Survey, SWPPP, QC / QA, Trucking, Sweeping, Water Truck, Fence, Clear & Grub, Demo, Landscape, Minor Concrete, Sign Structure, Construction Area Signs, Stripe, Electrical, Adjust Utilities, Slurry Seal, Bridge, Joint Seal, Rebar, Piling and Underground.

Granite Rock Company 'Graniterock' is signatory to Operating Engineers, Laborers, Teamsters, Carpenters and Cement Masons unions. 100% performance and payment bonds will be required from a qualified surety company for the full amount of the subcontract price. Bonding assistance is available. Graniterock will pay bond premium up to 1.5%. In addition to bonding assistance, subcontractors are encouraged to contact Graniterock Estimating with questions regarding obtaining lines of credit, insurance, equipment, materials and/or supplies, or with any questions you may have. Subcontractors must possess a current contractor's license, insurance and worker's compensation coverage. Subcontractors will be required to enter into our standard contract. Graniterock intends to work cooperatively with all qualified firms seeking work on this project.

Visit
www.sbeinc.com to
 download
 a PDF version of the
 latest SBE Newspaper
 and SBE Newsletter

Solar Tech Empowers Consumers to Get off the Grid

Continued from page 1

director of the Energy Institute at the University of Texas. “Instead of building large power plants, we’ll install solar panels and battery systems. It’s not today, but 10 years from now it will be.”

Solar heating up

Locales including Germany, Hawaii, California and Arizona have been inundated with rooftop solar systems, prompted by a combination of high power prices and generous subsidies for renewable energy.

If predictions hold true that solar panels are only going to get cheaper, that same growth trajectory is expected to spread across the U.S.

Right now solar power represents about 2 percent of the nation’s electrical capacity, both through rooftop installations and utility-scale farms.

If current growth rates continue, by 2025 there should be 90 gigawatts of solar power in the U.S. — more than 8 percent of current capacity — according to the financial services firm UBS. That will hold even if the U.S. government lets the solar tax credit expire next year.

Batteries and fuel cells remain firmly stuck in the development phase, with no clear timeline for mass adoption. But were one of those technologies to prove cost-effective, homes and businesses could quickly be generating their own electricity.

Texas’ grid operator, the Electric Reliability Council of Texas, is not taking the potential for a shift away from the grid lightly. After watching the sudden onslaught of solar in other states, the agency launched a study to determine what steps it could take to prepare, said Paul Wattles, a senior analyst at ERCOT.

“Other than Austin and San Antonio, we haven’t had the strong incentive programs that encouraged a massive adoption rate,” he said. “But the price of [solar panels] is so low, it’s approaching the point where we’re going to start seeing massive adoption rates.”

The power of green

Environmentally speaking, this is all good news. Power plants, particularly those that burn coal, are responsible for more than 30 percent of U.S. greenhouse gas emissions.

At IKEA in Frisco, planners have cut demand on the grid by covering the store’s roof in solar panels — about two football fields’ worth.

The almost one-gigawatt system is one of the largest in Texas and supplies about 20 percent of the store’s energy demands, as throngs of customers

a day go in and out to shop for Pöang chairs and Caja tablecloths.

“If you go back to 2010, we’ve cut our energy costs by 35 percent,” said Tim Smythe, operations manager at the store. “That’s everything: the solar system, switching to LED light bulbs, automating our temperature and lighting to use less power when the store is closed.”

In the U.S., electricity is a \$377 billion-a-year industry, employing hundreds of thousands of people.

Already the boom in solar panels is cutting into traditional sales, along with a housing stock that is vastly better insulated and more efficient than it was just a decade ago. Since peaking in 2007, electricity sales have fallen by 1 percent, according to the U.S. Energy Information Administration.

Oncor, Texas’ largest transmission company, warned investors in its annual report this year, “to the extent self-generation facilities become a more cost-effective option for certain customers, our revenues could be materially reduced.”

By and large, the sentiment within the industry is that while distributed generation will cut into profits, it is far from the game changer some have made it out to be. The government regulators who run the power grid must ensure a stable electrical supply. Any change to the grid and the markets upon which electricity contracts are traded would probably be rolled out slowly and cautiously, Webber said.

Branching out

Already, the power industry is lobbying in statehouses across the country to reduce the rate they pay for their customers’ excess solar power, to better account for the cost of maintaining the grid.

“This is going to be negative headwind to power prices for the foreseeable future. But let’s not over-emphasize this,” said Julien Dumoulin-Smith, an energy analyst with UBS.

Not everyone in the power sector anticipates a modest shift.

In a letter to investors last year, NRG Energy CEO David Crane warned that not only was distributed generation growing but the day was coming when homeowners and businesses would generate “most of the electricity they consume on the premises.”

Already, NRG is branching out in an “if you can’t beat ’em, join ’em” strategy. It created a new Home division last year that will not only install solar panels on your roof and a vehicle charging station in your garage, it will sell you a device to charge your tablet while sitting in the bleachers of your child’s

soccer game.

A house outside downtown Houston serves as a lab in which to test new products. Touring the facility last month, NRG retail president Elizabeth Killinger said that while revenues for the new venture were modest, she expected one day they would help mitigate the anticipated drop in power sales.

“We can help make the complex simple. Sure, we might sell less power, but at the end of the day the customer is going to use less anyway. Someone’s going to help them,” she said.

Sun is rising

In some parts of the world, rooftop solar installations have become so prevalent they’re already forcing a rethinking of how electricity is transmitted.

In Hawaii, which has some of the highest electricity rates in the world, there are so many solar systems that the local utility warns it is losing its ability to maintain the delicate harmony of electricity generation and demand across the grid. Last year, Hawaiian Electric Co. announced it was in negotiations to build utility-scale batteries in hopes of easing the strain.

In Arizona, utilities have complained the high rates they are required to pay their customers for their unused solar power — combined with the loss in sales — are threatening to send them into what some have termed a “utility death spiral.”

It’s too early for any such issues to have arisen in Texas, said Wattles, the ERCOT analyst.

With no state subsidy and the decision on what to pay for distributed power left to the companies, Texas has one of the lowest per-capita rates of solar in the country. But with so many sunny days, developers continue to watch the state as the next big market.

Among the early leaders, Adam Stetson, with Austin-based PSW Homes, is selling what he calls “sustainable” houses for which one of the primary selling points is a rooftop solar system capable of supplying about 40 percent of a household’s daily electricity needs.

So far, PSW only has four homes built in Dallas. With seven housing developments in development across the city, Stetson says more than 270 homes should eventually get built.

Assuming they use the standard size, that should work out to around 3,200 solar panels.

Source: ©2015 The Dallas Morning News.
Distributed by Tribune Content Agency, LLC.

With SBE you can:

FIND

Subcontractors, Vendors,
and Suppliers

REACH

Diverse Audiences

ADVERTISE

Sub-Bid Request Ad
Public Legal Notices
Job Listings