



# 2009

## Sacramento Region Clean Energy Roundtables: Input and Ideas for Action



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## INTRODUCTION

Business, education, and community leaders across the Sacramento region are rapidly pursuing strategies to enhance the local market, develop the necessary workforce, create supportive local policies, and facilitate the growth of businesses in the Clean Energy Technology cluster. Our efforts are united through a project known as the Green Capital Alliance (GCA). In order to ensure we are focusing on the highest leverage opportunities to support local clean energy companies, the leadership of the GCA has planned for annual roundtable sessions with local company leaders. We know there are no better advisors than the entrepreneurs who are growing their businesses here right now.

During the month of February, 2009 the Green Capital Alliance hosted its second series of CEO roundtables (the first series was completed in September, 2007). Clean energy company leaders from the Greater Sacramento Region\* were invited to participate in one of four luncheons, and 45 leaders from 35 local clean energy companies decided to attend one of the sessions, including representatives from all three local utility companies. Each luncheon was also attended by GCA's partners representing regional economic, business and education organizations.

Our goal is to respond to company needs by orienting our work plans around actionable input from these sessions. As a result of the first series of business roundtables in 2007 and the feedback we gathered from the 24 companies that participated, the GCA partners focused their attention on workforce development needs and investigating how to harmonize the region's permitting process for solar installations. As an example of our work, since those meetings significant grant investments were made into training the next generation of "green" employees in our region—Sierra College received \$500,000 to create and launch a solar installation training program, and the Los Rios Community College District just attracted \$2 Million in Department of Labor grant support for their training programs under the GreenForce initiative. Our work to create uniform solar permitting processes and fees continues, but much of the background research has been completed and reported to the Sacramento Area Council of Governments.

The world has changed a lot since we last met with clean energy companies—the economy has taken a serious downturn, we have a new federal administration, and congress just passed a stimulus package that pumps impressive sums of money into the green sector. Meanwhile, the clean energy cluster has been growing in the Sacramento region. Last time around we had approximately 75 companies on our invitation list; this time we reached out to approximately 110 companies. We were curious to learn the impact on local businesses, and to hear their insights on what they predict lies ahead.

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\* We considered the Greater Sacramento Region to include companies in Yolo, Sacramento, Yuba, Sutter, Placer, and El Dorado Counties.

## **PARTICIPANTS, SPONSORS, & STAFFING**

We would like to thank the 35 companies that participated for donating their time and energy to support our work. These companies span a variety of clean energy realms. Our attendee list included a strong concentration in solar companies that mimics the broader trend in the region, each with their own emphasis in research, development, and/or residential and commercial installation. We had several companies join us that focus on energy efficiency in homes and buildings, and HVAC and electrical systems. There were also two biomass and two biofuel companies that participated, adding to our understanding of how these technologies are growing in our region. We were pleased to hear from one wind energy company, Windensity (previously known as Marquiss Wind Power). All three utilities in the Sacramento Region took part in the sessions—Pacific Gas & Electric, Roseville Electric, and the Sacramento Municipal Utility District—and they each have an impressive level of commitment to providing greener sources of power to our communities.

Participating companies:

Advanced Air and Electric	PG&E
Altus Energy	Platt Electric
Beutler Corporation	Rayco Electric
Carbon Sequestration, LLC	Roseville Electric
Carnahan Electric	Sierra Energy
Clean Energy Systems, Inc	Sierra Pacific Home and Comfort
Community Resource Project	SMUD
Del Sol Power	Solar Development
Enfinity Corp.	Solar Power, Inc.
Ericson Solar	Solarecity
ES Electrical Construction	SolarRoofs.com
First Source Solar Systems	Soul-er, Inc.
Go Solar Cooperative, Inc	Sun Edison
Granite Bay Energy Group	Sun River Solar Power Systems
Healthy Homes	SVV Technology Innovations, Inc.
Henwood Associates, Inc	Treasure Homes
Novozymes, Inc.	Windensity
Pacific Ethanol	

These sessions are not possible without funding support and donated meeting space. The 2009 Roundtable luncheons were generously sponsored by the Sacramento Employment and Training Agency/Sacramento Works, the Golden Sierra Workforce Investment Board, Sacramento State University, Downey Brand, LLC, and the Los Rios Community College District. Our meeting hosts included the City of Rancho Cordova, the City of Roseville, the Sacramento Metro Chamber of Commerce, and the Sacramento Area Commerce and Trade Organization. Valley Vision, through its role as the project manager for the Green Capital Alliance, provided the staffing support to design and facilitate all four luncheons. A complete meeting-by-meeting record of attendance is detailed in Appendix A.

## **ROUNDTABLE QUESTIONS & FORMAT**

The emphasis of each luncheon was on gathering insights from the clean energy company representatives on a series of questions. In general, the conversations focused on the first and second questions, and we integrated the other discussion questions into those conversations as much as possible.

1. Recognizing the economic and political climate has changed recently, what are the biggest challenges and opportunities associated with being a clean energy business right now?
2. As you look forward to the next 2-5 years what do you expect your workforce needs will be?
  - Are you able to meet your workforce needs right now?
  - What are your needs for 4-year degree workers?
  - Do you train your employees in-house, or do you hire employees that are already trained?
  - Do you have certain training needs that are not being met by local/regional organizations?
3. What things can be done by local government to better support your growth and development?
4. How do you think we could support the expansion of the regional market for clean energy products and services?
5. Do you have certain advocacy recommendations for legislation at the state and federal level that our partners at the Metro Chamber could help you to influence/support?

A small portion of each meeting was dedicated to sharing information about existing programs and projects being spearheaded by partnering organizations, in order to profile some of the available economic development resources in the region.

## **CONVERSATION OUTCOMES**

Each Clean Energy Roundtable luncheon was characterized by an air of very open communication and represented genuine relationship-building between companies and our partner organizations. There was a tremendous amount of discussion around the financing challenges linked to the current recession—affecting business opportunities at all scales. Similar concerns were echoed in each meeting, yet there was also a note of optimism because of the passage of the February, 2009 passage of the federal American Recovery and Reinvestment Act and the large number of energy provisions in the bill.

To simplify the review of the outcomes, within each topic area the gathered information and recommendations are presented as bulleted lists. Over the next month regional leaders and our partners working on the Green Capital Alliance will review and evaluate this information in order to assess which items should be the focus of our work in 2009.

## **The biggest challenges facing local clean energy companies:**

### Financing-related issues

- There is no shortage of interested residential customers, but they are in a “wait-and-see” mode to see what happens with the economy before spending money, or they are waiting to see if the prices go down
- Many customers simply do not have access to credit to make larger purchases
- For businesses, using the incentive of a renewable energy tax credit only works when they have a tax liability (a problem in the current economy)
- Technology-oriented companies are hitting a financial “valley of death” between the time that they finish the research, development, and pilot testing of their product, and when they want to commercialize their technology
- Solar companies are being affected by the reduction of energy subsidies in PG&E territory (this is because the subsidies are a part of a phased incentive program, in which earlier investors received larger subsidies for their solar energy installations)
- Financing challenges are also affecting commercial-scaled projects. Recently some solar companies have had finance partners pull out of large-scale power projects at the last minute
- The banking industry has become more involved in serving as a “broker” for renewable energy installations—providing the financing and securing the contractor. The banks’ propensity to go with the lowest bidder might be impacting the quality of the work being done, and reduces the amount of profit going to the renewable energy company itself

### Barriers to business

- Lack of uniformity in renewable energy permitting costs and processes across the region

## **Opportunities to address the challenges:**

### Finance-related opportunities

- Pursue region-wide adoption of the Berkeley FIRST<sup>†</sup> financing model for solar installations, leveraging the passage of AB 811<sup>‡</sup>. Some proponents expressed that the region will need to make sure there is sufficient capital available at reasonable interest rates to make this program workable
- For renewable energy installations, investigate potential to use a robust feed-in tariff<sup>§</sup> structure, rather than rebate programs to incentivize customers

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<sup>†</sup> Information on the history and implementation of the pilot phase of the FIRST program in the City of Berkeley is available on their website: <http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=26580>

<sup>‡</sup> According to the state’s Flex Your Power website, “Gov. Schwarzenegger recently signed Assembly Bill 811, giving all California cities and counties the ability to offer low-interest loans for energy-efficiency projects and solar panels to homeowners and small businesses. Residents would pay back the loans through assessments on property tax bills; if they move, the outstanding loan balance is taken over by the new owner.” <http://www.fypower.org/news/?p=3189>

<sup>§</sup> Wikipedia’s definition of a feed-in tariff: “A Feed-in Tariff is an incentive structure to encourage the adoption of renewable energy through government legislation. The regional or national electricity utilities are obligated to buy renewable electricity (electricity generated from renewable sources, such as solar photovoltaics, wind power, biomass, hydropower and geothermal power) at above market rates set by the government.” [http://en.wikipedia.org/wiki/Feed-in\\_Tariff](http://en.wikipedia.org/wiki/Feed-in_Tariff)

- Recognize that energy and water use efficiency are the “low hanging fruit” of saving energy for the lowest levels of needed investment, and the region should look at existing programs that help engage the community in working on this (examples mentioned include: the Architect 2030 Plan, and the 1000 Home Challenge)
- Some financing incentive programs for renewable energies can provide cash grants rather than tax credits, and this could work better in the future. In an era of diminishing tax liabilities, pursuing a cash grant is a better financial deal for the customer. Some fact finding is necessary: do the cash grant options allow money to be applied to the business’ working capital or only the renewable technology itself? Are cash grants being used for residential installations in addition to commercial installations?
- Some banks are reducing their required “Loan to Value” ratio requirements for renewable energy installations to 50%, but in general too much time is being spent educating the banking community about the benefits of making renewable energy investments
- Create more energy “co-ops” where people can buy in to renewable energy installations, even if they can’t implement them on their own home/building. The SMUD Solar Shares program is an example of this idea. This concept could be broadened so that interested individuals could provide the funds that would serve as a financing pool for energy systems on private residences, and they would receive some form of carbon/energy credit in return.

#### Removal of business barriers

- Align local governments and simplify the approval process for renewable energy installations.
- Installation fees should be based on actual inspection and review costs, rather than a percentage of project value

#### **Workforce-related input:**

##### Big Picture Issues

- Job creation hinges on improving financing challenges
- The region’s ability to attract clean technology manufacturing facilities and jobs depends on our willingness to develop a strong local market for the products
- We need a more holistic approach to energy education and training:
  - The workforce needs to understand the new energy economy, distributed power generation, and the relationship between renewable energy companies and utilities
  - The focus should be on building an integrated approach to saving energy—to end the tendency to silo various technologies
- The anticipated wave of retirement at the utilities is something that needs to be planned for in the workforce training arena
- All of the STEM training is important (Science, Technology, Engineering and Math), but people also need to be introduced to the emerging energy paradigm—distributed power generation—as part of this training

## Engineers

- Wind companies: Need for electrical engineers, mechanical engineers, and people with an understanding of the conversion of wind and fluid dynamics. Also need power engineers, which is a more limited pool of available talent
- Biomass companies: Need process engineers (many come out of mechanical engineering with a background in mining technology). We have good resources for training people for biofuel technology in the region
- General company input: Product developers, electrical engineers, mechanical engineers

## Solar Company Needs

- Salespeople need to be energy literate, and educated about financing mechanisms. Solar companies are not paid for fielding inquiries from potential customers, but these information requests consume a lot of time (about 1 in 20 becomes a job).
  - Salespeople need to be trained to use estimation software (usually PVSYST or PVWatts).
  - Companies need people who can explain solar technology and how it translates into a payback for the customer (like Solar 101). The ingredients that affect pay back—rebates, solar KWh produced, and understanding dynamic effect of rate scheduling modification, time-of-use pricing, etc.
  - Right now companies need to teach sales people all of these things
- The Community Resource Project—a local nonprofit organization that will invest stimulus finding into making low income homes more energy efficient—is an important part of the training pipeline for solar companies. This organization can serve as the training grounds for future employment in private companies
- Having a field component to training is vitally important, because it can take a year to become familiar with working on different kinds of existing structures. Some solar companies said it will take ten installation jobs before a new employee is fully able to do the work on their own
- Many skilled people available for hire from the shrinking construction industry, which means there is a ready supply of people that can be re-trained. Solar companies explained that they tend to rely on shorter, in-house trainings to prepare new employees for the work. Companies are mainly looking for people with energy awareness. Diminishing construction sector also means that there could be some loss of construction-related talent in the region due to attrition.
- One company specifically mentioned wanting to attract students from the Sierra College solar training program, and there was general enthusiasm and support for the recently-launched Los Rios Community College District GreenForce programs

## Energy Analysts

- Energy Analysts represent a new and emerging group of workers that should be an important employment growth area for the region
- Workers need to have the ability to look at the whole energy system in a building—demanding engineering-type skills mixed with field experience
- They need to understand technologies and how they interact, and deal with the financing side as well

- They can analyze structures for energy efficiency opportunities, and serve as a 3<sup>rd</sup> party certifier of homes for energy performance
- According to one company representative this new career opportunity represents a “morph of the trades,” and many people in this field will “start with a tool belt”
- In addition to understanding buildings, these workers must be able to prescribe and sell a \$15-30K energy saving package as a solution

#### Electricians

- There are not enough electricians in the region, and the existing group will be impacted by the state certification requirement that goes into effect in June, 2009
- There is an opportunity to create a Solar Installer classification that would clarify a standardized set of skills needed to perform the job effectively

#### Internships with local companies

- There were a couple of suggestions that the region should develop a way to attract and screen applicants for internship positions at local clean energy companies. This would help keep talent within the region, and would give students the hands-on experience they need to really understand the energy systems.

#### **Build education and awareness to support the sector:**

- People within the region should become more aware about what is happening here already to advance energy sustainability
- There should be a shift in perception about renewable energy installations—they should not just been seen as part of the equity of a house, but instead be viewed as a revenue generator because the energy value keeps rising.
- There is an opportunity to market energy efficiency in the same way that recycling became a nation-wide campaign
- There is a need to change public perceptions of energy efficiency products, to build trust and broader use. Low income residents need to learn about how energy efficiency investments can save money in the long run
- Companies would like support in understanding the emerging business opportunities that are part of the stimulus bill
- There should be a regional effort to track data and publicize outcomes of the federal energy stimulus investment in key areas, like job creation, energy savings, etc. This will help to justify future spending in this area

### **Support growth of “newer” technologies within the region:**

- Biomass technology is ready for a “break out” and the region needs to support this industry with a local trade group.
- There is an expectation that smart grid technology \*\* will change the region’s energy industry— helping to de-centralize the production of energy to a variety of sources, thus supporting smaller energy businesses
- The Sacramento region could become a showplace for gasification technology (converting waste to energy). This would make us an international destination so people could learn about the technology and see it in action. Right now much of our waste is shipped to landfills in Nevada, and there is no US demonstration site for this technology.

### **Suggested changes at regional scale:**

- Create region-wide permitting and fee uniformity for solar installations.
- Implement AB 811 financing mechanism across entire SACOG region.
- Desire for broader partnerships with Energy Service Companies (ESCOs) within the region. ESCOs are third-party energy developers that put renewable energy systems on the roofs of companies and continue to own the system while selling energy back to the utility, and stabilizing energy costs for the building owner over a period of time.
- Engage local commercial builders in identifying incentives that would work to encourage them to incorporate energy efficiency into new buildings, especially facilities that will be leased to other businesses.
- Encourage local governments to adopt policies that mandate aggressive renewable energy and energy efficiency measures in new developments
- Desire for Roseville Electric to implement time-of-use billing to reflect true energy cost variability during the day (this helps incentivize renewable energy installations because it changes the cost-benefit analysis)

### **Needed state and federal advocacy support:**

- Companies need policy definition at the state and federal level on climate change, and clarity around how stated goals intersect with different clean energy technologies. A lack of policy definition slows the expansion of new technologies

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\*\* According to Wikipedia, “The term *smart grid* represents a vision for a digital upgrade of distribution and long distance transmission grids to both optimize current operations, as well as open up new markets for alternative energy production. As with other industries, use of robust two-way communications, advanced sensors, and distributed computing technology will improve the efficiency, reliability and safety of power delivery and use.” [http://en.wikipedia.org/wiki/Smart\\_grid](http://en.wikipedia.org/wiki/Smart_grid)

- Multiple companies expressed the belief that that the best approach to support local job creation and economic development would focus on supporting and facilitating development of local renewable energy systems on residences and businesses. Some company representatives felt that the recent emphasis on funding large, centralized projects (like solar farms) does less for region's economy
- Consider developing incentives for green products manufactured here. A rebate should be based on the number of watts produced and sold from the facilities (this could be a state or federal program)
- There was a suggestion that people who install solar systems should get more return for their investment, and they should be paid for excess power production
- Expand the rebate programs for energy efficient AC systems, considering their role in peak energy usage
- Prevailing Wage presents a variety of problems for renewable energy companies, including:
  - Difficulty determining how to classify their workers and associated prevailing wages because they don't fit into traditional categories
  - Contributes to dramatically increasing overall project costs because of the high labor expenses
  - Prevailing wage is based on an average that includes workers' incomes in the Bay Area, so it is artificially high for this region
  - Affects clean energy business recruitment to the region because companies that are attracted here with government incentives are required to pay prevailing wage when they construct their facilities, which can offset the value of the incentive
- Implementation of Cap and Trade will have big implications for local companies, and we need to track this issue carefully
- Likewise, the Low Carbon Fuel Standard that is being evaluated at the state level will impact local biofuel companies, and they would like support in educating policy makers
- AB 1470, the Solar Water Heating and Efficiency Act of 2007, provides incentives to attain the goal of installing 200,000 solar water heating systems in the state by 2017. Region's solar water heating companies need support with implementation. AB 1470 creates a \$250 million ten-year program to provide consumer rebates for solar water heating systems.

## **NEXT STEPS**

Business Roundtable participants will be asked to carefully review these outcomes and ensure they are on track with the feedback from the four events. Following this period of review, members of the GCA will evaluate all of these recommendations and identify which items should be prioritized for our collaborative action in 2009 based on upon feasibility of success and cost of implementation, to maximize the impacts of our efforts. GCA partners have started to address some of the individual issues and opportunities raised at these sessions, and they are reconnecting with the participating companies to make things happen. Similar to our experience from 2007, these conversations have motivated action on many levels and within many organizations. The GCA will track and communicate our progress through our website, e-news, and future outreach events.

**APPENDIX A**

**Luncheon Attendees**

<b>Date</b>	<b>Clean Tech Company Representatives</b>	<b>Organization Representatives</b>
10-Feb-09	Brian Sipp, First Source Solar Systems Matt Ericson, Ericson Solar Jim Ray, Ericson Solar Rick Kehret, Go Solar Cooperative, Inc Mike Hart, Sierra Energy Tim Keller, Sierra Energy Steven Adair, Healthy Homes Paul Misso, Former CEO, Marquiss Wind Power Sergey V. Vasylyev, SVV Technology Innovations, Inc. Claus Fugslang, Novozymes, Inc. Sarah Teter, Novozymes, Inc.	Jason Buckingham, Golden Sierra WIB Julia Burrows, City of Roseville David Butler, LEED-Linking Education and Economic Development Marj Dickinson, UC Davis Bruce Dravis, Downey Brand Chris Flores, Office of Congresswoman Doris Matsui Brandon Ida, Office of U.S. Senator Barbara Boxer Kathy Kossick, Sacramento Employment and Training Agency/Sacramento Works Lorna Magnussen, Golden Sierra WIB Matt Mahood, Sacramento Metropolitan Chamber of Commerce Emir Macari, Sacramento State University Kristine Mazzei, Valley Vision Angela Shepard, Valley Vision Kingman Tsang, First Bank
12-Feb-09	Rick Wylie, Beutler Corporation Bob McChesney, Carbon Sequestration, LLC Jason Hanson, Sierra Pacific Home and Comfort Jim Bayless, Treasure Homes John DiStasio, SMUD Danielle Helm, Soul-er, Inc. Chuck Knoble, Rayco Electric Med Cram, Platt Electric Joan Graham, Community Resource Project	Wendy Bogdan, Downey Brand, LLP Jason Buckingham, Golden Sierra WIB Bob Burris, Sacramento Area Commerce and Trade Organization Terri Carpenter, Sacramento Employment and Training Agency/Sacramento Works Marj Dickinson, UC Davis Chris Flores, Office of Congresswoman Doris Matsui Phil Garcia, Sacramento State University Curt Haven, City of Rancho Cordova Brandon Ida, Office of U.S. Senator Barbara Boxer Matt Mahood, Sacramento Metropolitan Chamber of Commerce Kristine Mazzei, Valley Vision Robin Purdy, Sacramento Employment and Training Agency/Sacramento Works Angela Shepard, Valley Vision Brent Smith, SED Corp. JD Stack, SARTA
17-Feb-09	Mark Henwood, Henwood Associates, Inc Joe Henri, Sun Edison Brian Stevenson, Sun Edison Paul Koehler, Pacific Ethanol Tom Koehler, Pacific Ethanol John Miller, Pacific Ethanol Kent Lamb, PG&E Louise Perez, Community Resource Project Keith Pronske, Clean Energy Systems, Inc Geert Ramault, Enfinity Corp. Al Rich, SolarRoofs.com	Chris Delfino, Downey Brand, LLP Bob Burris, Sacramento Area Commerce and Trade Organization Marj Dickinson, UC Davis Kathy Kossick, Sacramento Employment and Training Agency Kristine Mazzei, Valley Vision Dan Throgmorton, Los Rios Community College District Tara Thronson, Valley Vision Jill Trainer, Sacramento State University

25-Feb-09	<p>Farid Diabachi, Velocity Venture Capital and Windensity  Jim Gragg, Solarecity  David Schweickert, Jr., Solarecity  Doug Tatara, Solar Development, Inc.  Kevin Davies, Solar Development, Inc.  Kirk Uhler, Solar Power, Inc.  Jeff McKay, Granite Bay  Pete Nurenberg, ES Electrical Construction  Eric Salci, ES Electrical Construction  Dave Piper, Del Sol Power  Dan Rietz, Altusenergy  John Caranahan, Carnahan Electric  Richard Kooi, Sunrise Real Estate Company  Sam Hedayat, Advance Air and Electric  Tom Habashi, Roseville Electric</p>	<p>Hannah Brosnan, Valley Vision  Jason Buckingham, Golden Sierra WIB  Bob Burris, Sacramento Area Commerce and Trade Organization  Julia Burrows, City of Roseville  Marj Dickinson, UC Davis  Bruce Dravis, Downey Brand, LLP  Mark Ingram, Pacific Coast Companies, Inc.  Kristine Mazzei, Valley Vision  Theresa Milan, Los Rios Community College District  Robin Purdy, Sacramento Employment and Training Agency  Angela Shepard, Valley Vision  Dan Throgmorton, Los Rios Community College District</p>
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