

The Faces of Sustainability series highlights how Bay Area residents are making their communities better places to live, protecting their natural environment, and conducting business in ways that promote quality of life for subsequent generations.



Full Circle Farm groundbreaking, September 2007.
Courtesy of Lilia Schwartz



Bay Area Counties

Santa Clara County, home to world-famous Silicon Valley, is the largest of the nine San Francisco Bay Area Counties in both area and population. Over the past half century the county has changed radically as high-tech business and the development following in its trail have largely replaced what was once a primarily agricultural area. Today, agriculture is limited to the southern extreme of the county. Along with innovation, Silicon Valley, the county's economic core, has brought new challenges to sustainability—traffic congestion, high energy consumption and related greenhouse gas emissions, and lack of affordable housing among them.

Municipalities, non-governmental organizations, and private businesses throughout the county are well aware of these challenges and increasingly are developing creative solutions, individually and collectively, to address them. Here we present a brief overview of a few recent initiatives, beginning with the region's thorniest problem, transportation.

Transportation

According to the Metropolitan Transportation Commission, in 2000 (the most recent data available), 935,000 people commuted to work in Santa Clara County every day, more than 147,000 (16%) of them coming from outside the county. At the same time, 97,000 were commuting out of the county. In 2005, 74% of commuters in Santa Clara County were driving alone. This puts a huge number of vehicles on the road and a significant amount of CO₂ in the air. The approaches to changing these driving patterns are many and varied.

A leader in the region's sustainability efforts is the Silicon Valley Leadership Group (SVLG), whose 210 member companies cooperate with local, regional, state, and federal governments to address major public policy issues affecting the economic health and quality of life in Silicon Valley. Currently, some 55 of SVLG's companies are participating in "Cool Commutes," a yearlong competition to reduce solo driving to work, cut carbon emissions, and lower

dependence on foreign oil. The companies offer many incentives to employees to use carpools, public transit, cycling, walking, teleworking, or other alternative means of commuting. For instance, Yahoo! offers the EcoPass that gives employees of subscribing companies free rides on any of the bus and light rail services run by the Santa Clara Valley Transportation Authority (VTA). And in the Commute Club run by Specialized Bicycles of Morgan Hill, employees earn \$2.00 per day for riding their bike, carpooling, or using transit to get to work.

One of the most successful alternatives to solo commuting is the Google shuttle bus. Every day, Google's shuttles transport over 1200 workers free of charge from more than 30 locations ranging from San Francisco to Concord to Santa Cruz, picking them up and dropping them off often within a few blocks of their homes. Service starts on some routes as early as 6:00 a.m. and ends around 10:00 p.m., with pickups as often as every 15 minutes during peak times. The shuttles, operated through the Bauer Limousine service, run on a biodiesel mix. Not only are they equipped with wireless internet access, but passengers can bring along their bikes and their dogs.

A different approach to getting people out of their cars is in effect at Facebook, the social utility company. Facebook offers its employees a stipend of \$600

per month to live within a one-mile radius of the company's downtown Palo Alto offices. The company has been growing fast, but, says spokesman Matt Hicks, "instead of spreading out in a distant office park, the philosophy has been to create an urban campus that encourages the same spirit of community that is at the heart of Facebook's business."

Also in Palo Alto, Mayor Yoriko Kishimoto and County Supervisor Liz Kniss, with the cooperation of VTA, Stanford University, the Palo Alto School District, the Palo Alto Downtown Business Improvement District, and several local employers, have been spearheading a program to get people to use their feet or a bike instead of a car to get around. The week-long 2007 "Palo Alto Walk and Roll Challenge" offered a panoply of community-wide activities, but Mayor Kishimoto doesn't intend the program to be limited to just this one week. "We are planning for no less than a cultural revolution in this campaign to move away from cars," she said in announcing the campaign.

While it is ideal to get as many people out of individual vehicles as possible, there are also programs to make the vehicles remaining on the road cleaner. Pacific Gas & Electric (PG&E) has a goal of running 50% of its fleet on alternative fuels such as biodiesel and compressed liquid natural gas (LNG). According to Spence Erickson, the company's Program Manager for Clean Air Transporta-

As part of its Clean and Green campaign, SVLG has been harnessing some of the competitive energy that has fueled the area's economic powerhouse to help get people out of their cars.

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tion, Northern California PG&E already has the largest natural gas utility fleet in the nation. In addition, it operates a number of LNG refueling stations that can also be used by privately owned vehicles outfitted to use the fuel. The San Jose airport is another leader in LNG use, with 20 operating LNG shuttle buses and 14 more planned for 2008. Since August 2003, the airport has replaced over 1 million gallons of diesel fuel with LNG.

In June 2007, Google.org, Google's philanthropic arm, awarded \$1 million in grants and announced plans for \$10 million to fund development, adoption, and commercialization of plug-in hybrids, fully electric cars, and related vehicle-to-grid (V2G) technology, in which electricity is transmitted back and forth between plug-in hybrids and the electricity grid.

Housing and Smart Growth

Inextricably linked with transportation is housing, and the county's high cost of housing, particularly in Silicon Valley, has forced many people to travel long distances to their jobs. A number of strategies and programs are underway to make future growth in the county "smarter," linking development to public transit and thereby lowering greenhouse gas emissions and pollution. Smart growth also reduces urban sprawl, provides for more equitable distribution of resources, and generally enhances the quality of life for all.

SVLG has developed goals for new home development that encourage the use of transit, provide for mixed-use development, include moderate increases in density, and discourage urban sprawl. Development projects that meet SVLG's specific criteria will receive a letter of support and public testimony from the Group. Projects that provide homes at a more affordable rate for first-time homebuyers and low-income residents will be given special consideration.

Currently, the city of San Jose is the county's leader in implementing smart growth. The city's General Plan identifies major strategies and specific land-use designations and policies, including funding housing for all income levels; dis-

By demonstrating [how] clean energy technologies... can be connected to the grid, we hope to spur demand and encourage car manufacturers to make [plug-in hybrid] vehicles commercially available on a large scale on an urgent basis.

— Dr. Larry Brilliant,
Executive Director of Google.org



CAHILL PARK DEVELOPMENT, SAN JOSE

Source: City of San Jose

persing affordable rental housing into more affluent neighborhoods; and designating transit-oriented development corridors suitable for higher density housing as well as intensive nonresidential and mixed uses. There are many examples of San Jose's success in meeting these goals. For instance, between 1999 and 2004, the city committed over \$55 million for the production of 650 units affordable to extremely low-income households. And over 4100 units in 25 city-assisted housing developments have been built along existing transit corridors, including light-rail.

Energy

Santa Clara County is at the forefront of leveraging public-private partnerships to reduce its energy consumption and related greenhouse gas emissions. Sustainable Silicon Valley (SSV), a voluntary partnership of business, government, academic, and nongovernmental organizations, is committed to a 20% reduction in the region's CO₂ emissions by 2010, based on 1990 levels. In its "CO₂ Report 2007," SSV announced that, as of 2006, its members' cumulative CO₂ emissions reductions totaled 517,000 tons, the equivalent of taking 102,000 automobiles off the road. These reductions have been reached mainly by investment in energy efficiency and, increasingly, reliance on renewable energy. For example, Agilent Technologies has reduced CO₂ emissions by 79% at its Santa Clara and Palo Alto facili-

ties since 2002 through building renovation and consolidation, and the use of wind power.

LifeScan has reduced the CO₂ emissions at its Milpitas facility by more than 54 percent since 2001 through state-of-the-art energy efficiency practices and the purchase of renewable energy credits.

Santa Clara Valley Water District has a 97% renewable energy portfolio, including solar power, hydro-electric power, and landfill gas.

The SVLG is also encouraging development of new energy-efficient technologies for data centers through a collaboration between corporate data centers, Lawrence Berkeley National Labs, and the UC Davis new Energy Efficiency Center. In addition, SVLG is a partner in SolarTech, a business-to-business collaboration that will help identify hurdles in the overall solar installation process and work to streamline the process and reduce the cost to customers.

The solar panel installation at Google's Mountain View headquarters went into operation in June 2007, and by November, 30% of the campus' electricity and its fleet of plug-in hybrid vehicles were solar powered. The Google project is the largest solar installation to date on any corporate campus in the United States and one of the largest on any corporate site in the world. In addition, Google has a system for its employees to get discounts on home solar installations.

In the City of Santa Clara, Silicon Valley Power offers its small

commercial, large commercial, and industrial customers the opportunity to purchase renewable energy derived from wind and solar projects at only minimally higher cost than power from standard sources. And in Mountain View, ALZA Corporation has a landfill gas cogeneration facility that converts methane gas into energy for the company's facilities.

Agriculture/Food

On September 27, 2007, the first orchard tree was planted at Full Circle Farm, a joint project of the Santa Clara Unified School District and Sustainable Community Gardens (SCG), a nonprofit organization dedicated to the renewal of local, sustainable food systems throughout Silicon Valley. Funded and managed by SCG, the farm is located at Sunnyvale's Peterson Middle School on eleven acres of land leased at minimal cost from the School District.

The sustainably managed farm will include diversified row crops, diversified orchards, and a one-acre biointensive garden designed to demonstrate how the maximum amount of food can be grown in minimal space. The farm will be worked primarily by four full-time farmers, who will be housed free of charge in sustainable straw-bale housing on site. Fifty percent of the farm's produce will go to the district's school lunch programs, where 45% of students qualify for free or reduced-price school lunches. The other 50% will be sold at a stand at the farm and in

the area's farmer's markets.

Perhaps the most exciting aspect of Full Circle Farm is the involvement of students. Students will actually work on the farm, helping to plant and harvest the crops, study ecology and nutrition, and take an elective class on every aspect of running a farm from seed to market. "This is not a field-trip," says Full Circle Farm's Program Director Liz Snyder-Liles. "This will be an everyday experience of the farm's operations."

Green Business and Building

Santa Clara companies excel in green business practices, from operations to building.

In 2007, the locally based environmental organization Acterra presented the first Acterra Award for Sustainability to Stanford Dining for its continuous and comprehensive approach toward sustainable business practices. A division of Residential & Dining Enterprises at Stanford University, Stanford Dining serves 18,000 meals a day using seasonal, organic produce from local farms, including student-maintained community gardens. Among the many sustainable practices in place, they utilize non-toxic cleaners, energy-efficient appliances, and electric-powered vehicles, and compost all food waste. Staff members are trained in sustainable practices, and all regular employees receive full health benefits and are paid a living wage.

Another 2007 Acterra award—

this time for Sustainable Built Environment—went to Adobe Systems' headquarters in downtown San Jose. This award made Adobe the world's first commercial enterprise to achieve a total of three Platinum certifications under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) program. Since 2001, Adobe and Cushman & Wakefield, its facilities management partner, have greatly reduced water and energy use through, for example, drought-tolerant landscaping and an irrigation system linked to local weather stations that automatically adjusts according to real-time weather conditions, and sensors to monitor carbon monoxide levels and adjust operation of building exhaust fans accordingly. Adobe also increased its use of outdoor air and enhanced the overall maintenance of its air systems, resulting in better indoor air quality. In addition, Adobe is diverting solid waste by up to 87%, and has reduced CO₂ emissions by 23%. Adobe is truly a leader in the region in terms of green building, but several other local companies are also building greener as many local governments in Santa Clara offer technical assistance and incentives.

Environmental Stewardship

In response to the rapid development in the county, the Santa Clara Valley Habitat Plan has been prepared by Santa Clara County with the collaboration of the cities of San Jose, Morgan Hill, and Gil-

We are helping to grow a new generation of environmental leaders, working together to make a local food system possible.

— Liz Snyder-Liles,
Program Director,
Full Circle Farm

roy; the Santa Clara Valley Water District; and the Santa Clara Valley Transportation Authority. Among its objectives, this cross-jurisdictional plan would protect, enhance, and restore ecosystem integrity for threatened and endangered species; enhance the diversity of plant and animal communities; conserve habitat and contribute to the recovery of endangered species; provide appropriate levels of public access in a manner compatible with conservation goals; facilitate economic growth compatible with approved local land use plans; and preserve agricultural viability.

The environmental organization Acterra is in the sixth year of a ten-year collaborative effort with the City of Palo Alto to act as stewards of the Pearson Arastradero Preserve, controlling invasive species and restoring over 600 acres of native habitat in the Palo Alto foothills. Rather than using herbicides to curb the invasive yellow star thistle, the Preserve is using the hairy weevil (*Eustenopus villosus*) as a biocontrol, and so far the program has had a significant impact. Acterra has also been very successful in recruiting local residents to help with maintenance of the Preserve, and they use the Preserve as a hands-on site for environmental education.

Sustainability Resources in Santa Clara County

Refer to the following selected information resources to learn more about sustainability in Santa Clara County.

Acterra: <http://www.acterra.org/index.html>

City of Palo Alto environmental initiatives:

<http://www.city.palo-alto.ca.us/environment/default.asp>

City of San Jose Smart Growth policies:

<http://www.sanjoseca.gov/planning/smartgrowth/smartgrowthtxt.asp>

Full Circle Farm: <http://www.fullcirclesunnyvale.org/WebRoot/Default.aspx>

Google.org climate change initiatives: <http://www.google.org/climate.html>

Metropolitan Transportation Commission: <http://www.mtc.ca.gov/>

Pearson Arastradero Preserve: <http://www.acterra.org/arastradero/index.html>

Santa Clara County official website: <http://www.sccgov.org/portal/site/scc>

Santa Clara Valley Transportation Authority: <http://www.vta.org/>

Silicon Valley Leadership Group: <http://www.svlg.net>

Stanford Dining: <http://www.stanford.edu/dept/rde/dining/index.htm?page=environ>

Sustainable Silicon Valley: <http://www.sustainablesiliconvalley.org/>

U.S. Green Building Council LEED program:

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=51>

Conclusion

Santa Clara County is known the world over for its innovation and leadership in the development of new technologies. Now the county is using that same energy to respond to the consequences of its urban development and

climate change, and is on its way to becoming an established leader in the development and use of sustainable technologies and practices.

Faces of Sustainability, Santa Clara

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