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All photos by Mary McHenry Photography.



Marine Science Institute helps local kids discover San Francisco Bay.

Welcome to Catalyst

The Bay Area's natural environments, diversity of cultures, and active economy make it unique in the world, and Microsoft is proud to be part of it. We're also proud to be among the region's top corporate philanthropists and want to share our insights. Each quarter, Catalyst Magazine highlights an issue and some of the best Bay Area nonprofit organizations working to address it.

The environment is our theme for this edition, and the profiled nonprofits work with a broad range of businesses, NGOs, policy makers, and individuals of all ages. That's not surprising; we all inhabit this region and the earth, and maintaining and repairing our environment demands that we all get involved.

We have the opportunity to work together toward a goal that we can all agree on—a healthy place to live, where we and future generations can prosper. At Microsoft, we are committed to being a responsible environmental leader and have implemented a number of programs to reduce our environmental footprint. Visit us at microsoft.com/environment to learn more.

A handwritten signature in black ink that reads "Sid Espinosa".

Sid Espinosa

Director of Corporate Citizenship, Microsoft

Microsoft



Big picture

Q&A on Bay Area environmental leadership

To get an overview of current environmental work in the Bay Area, we interviewed environmental champion Bonnie Nixon. Ms. Nixon has been a global sustainability strategist and environmental responsibility expert for 25 years. Bonnie is also the board chair of Sustainable Silicon Valley. Here is an excerpt from our conversation:

What trends are you seeing in Bay Area companies relative to environmental sustainability work?

Silicon Valley has always served as the birthplace for disruptive technologies and today it is the home of the cleantech sector, an emerging and powerful industry that extends way beyond carbon reduction. The cleantech sector is expanding into green chemistry for new materials, designing for reuse and recyclability, developing new industrial processes that eliminate toxins, and rethinking business models to “servicize” products.

Green buildings and smart micro-grid technologies are reinventing the way we measure and use energy, waste, potable and non-potable water. Software companies are building information and performance management systems to measure and decrease the amount of material, energy, waste, and water that we use.

We’re also finding that government, business, civil society, and environmental activists are increasingly working together for environmental solutions. No one entity has all the resources to support the transformation that needs to occur in the next couple of decades. Sustainable Silicon Valley’s EcoCloud Initiative is an example of this kind of collaboration on complex ecosystem issues starting with recycled water.

What’s the connection between environmental sustainability and job creation?

It’s powerful. Since the passage of AB32—to reduce greenhouse gases—we’ve seen about 65 billion dollars’ worth of industry come into the state and about 500,000 jobs created. The green building and smart-grid market can promote massive local job creation. You simply can’t outsource or export plumbers, electricians, builders, solar installers and painters.

What do you think that Bay Area leaders should be thinking about when it comes to the environment?

Two words: radical collaboration. We leaders need to come together and coordinate our efforts so that we can be really effective in defense of the air, land, and water, and the relationship of people, animals, and plants to it. It’s time to step up, take action, and lead. None of us want to be in the position where our children and our grandchildren ask us “What did you do when you knew?”

“No one entity has all the resources to support the transformation that needs to occur in the next couple of decades.”

—Bonnie Nixon,
Sustainability Strategist



Sustainable Silicon Valley promotes use of reclaimed water for industrial and landscaping activities.

Collective wisdom

Sharing sustainable practices pays off for the environment and economy

It used to be that businesses only thought of environmental concerns in terms of regulation by government. But today, focusing on what's good for the earth leads to opportunity. Sustainable Silicon Valley (SSV) brings businesses, government, and NGOs together to collaborate in a powerful mix that leads to positive results for our economy and environment.

SSV works with over 120 partners to help set them on a successful—and measurable—path toward more sustainable business practices. Their focus is on reducing energy use and its related CO₂ emissions, and fresh water use. The connections between these are obvious when you consider that 20 percent of California's energy is spent on moving water.

Often heard but not understood

Merriam-Webster defines sustainability as: "a method of harvesting or using a resource so that the resource is not depleted or permanently damaged."¹ But how does that translate to business success?

"There are two ways that sustainability helps companies' bottom line. It reduces waste, so it saves money and creates an opportunity for building new markets and changes the way you deliver products and services to be more environmentally-friendly," says Marianna Grossman, executive director of SSV. "Our industrial processes tend to be 'take-make-waste.' We extract resources and make stuff, and along the way there's waste. Then you use the product and eventually throw it away. So you're just creating huge amounts of waste."

Lowering energy use is an obvious way of reducing waste that also reduces greenhouse gas emissions. In fact, anything that is wasted is a lost asset because

The idea that any waste from one process can be used as a resource in another process is a fundamental aspect of an ideal "cradle-to-cradle"-designed system in which everything gets reused.

whatever is wasted required resources to produce it. The idea that any waste from one process can be used as a resource in another process is a fundamental aspect of an ideal "cradle-to-cradle"-designed system in which everything gets reused.

One waste reduction practice that's increasing locally, thanks to SSV, is the use of recycled water in systems that cool buildings and data centers. It's environmentally beneficial because it doesn't use precious drinking water, and the recycled fresh water doesn't go into the bay and reduce its natural salinity. And it's good for the owners of the systems because it reduces water costs.

New business models

The opportunities for creating markets and business models through sustainable business practices are only limited by our own creativity. One well-known example is that of Interface Global, a flooring company that revolutionized both how carpeting is sold and its impact on the environment. Rather than continuing to make large rolls that would ultimately be discarded in landfills, they converted to a modular approach of carpet squares that could be replaced individually as needed. Customers saved by only replacing what was worn out, and by eliminating the disruption of carpet

replacement. The squares are made from 100 percent recyclable material, so they don't go to landfills.

Partnering for the common good

For about a decade, SSV has brought together its partners in San Mateo, Santa Clara, Santa Cruz, and Southern Alameda counties. Microsoft is proud to be an SSV partner and has also shared SSV's work with its employees as an option for volunteering.

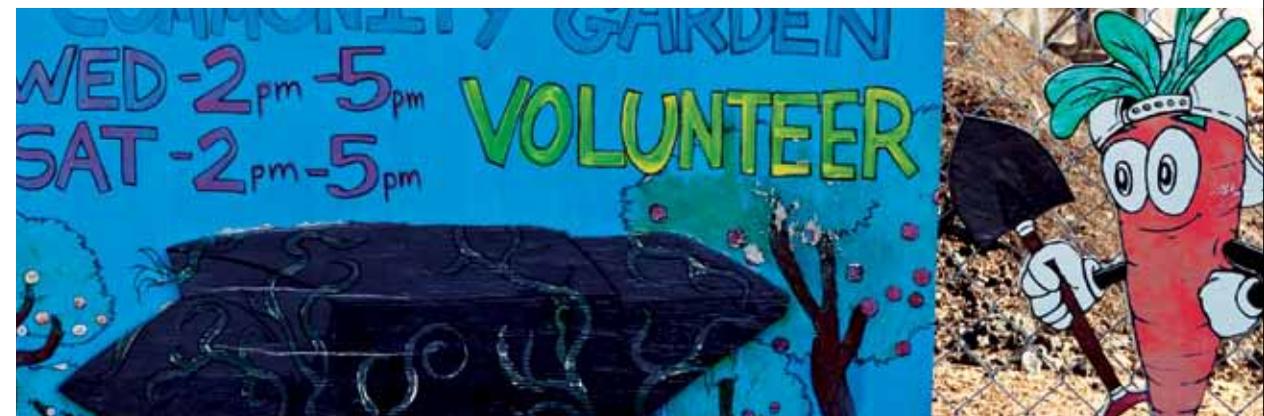
Grossman says that organizations become SSV partners primarily because "they believe in the mission and believe it's good to participate. They also recognize that they can't solve systemic problems on their own and that they have to work together to come up with solutions that go beyond the boundaries of their own organizations."

Partners set goals relating to energy and water use, and report their data to SSV annually as part of a regional system of metrics. Aggregated information is used in combination with data from state agencies to track progress towards reducing emissions and saving water in the Silicon Valley region.

The partners learn from each other through sharing but also benefit directly from their SSV collaboration. For example, SSV's Environmentally Preferred Purchasing program helps government agencies pool their purchasing power to get larger discounts on energy efficient products.

SSV invites you to engage with them as a partner, volunteer, or donor, and to bring SSV to the attention of those involved with production or facilities. sustainablesv.org

¹ <http://www.merriam-webster.com/dictionary/sustainability>



Santa Clara University's Forge Garden is a part of SSV's sustainability program.

Grass roots

Nonprofit generates people power to help the earth

STORY
03

A common goal can unite people of different backgrounds and life experiences. In the Bay Area, Acterra spurs hundreds of people to interact with the environment and each other to create local solutions for a healthy planet. “Change comes bubbling up from the bottom,” says Michael Closson, executive director of Acterra. “We touch a lot of people ... we activate them!”

Acterra’s name tells it all; it motivates individuals to act for the earth. Acterra and its many volunteers work to restore and preserve native ecosystems, reduce greenhouse gases, and promote environmentally-friendly practices by individuals and organizations, large and small. Their efforts are varied, but the results are always good for the environment.

Some Acterra volunteering options are locally-based and hands-on. For example, Acterra and its volunteers are restoring native plants and eradicating invasive species from 622 acres of open space at the Pearson-Arastradero Preserve in Palo Alto. Acterra also restores damaged natural habitats in other areas. Acterra’s native plant nursery supplies plants for the restoration work and sells plants to the public at an annual sale at Hidden Villa (see story 4).

Another way to volunteer is through the Green@Home program, which trains citizens to do in-home energy audits. This helps fight climate change by saving residents energy and money, and reducing CO₂ emissions. U.S. households produce 21 percent of the country’s global warming pollution, and changes by individuals can really make a difference.

Acterra’s commitment to local environmental leadership is demonstrated in their year-long “Be the Change” program, which has graduated 145 people in five years. Graduates like Bruce Karney have since become actively involved in projects that impact their community. Bruce initiated a group solar energy purchase project for his Mountain View neighborhood where 110 homes signed contracts to install residential solar electric energy systems within three months.

Another well-known Acterra program is the Business Environmental Awards that salute environmental leaders across six Bay Area counties. For the past 20 years, awards have been given to everyone from small businesses, schools, and government entities, to corporations, and have inspired others to emulate their practices. Individuals and groups are recognized through the Climate Heroes program. Anyone is welcome to submit a nomination through the Acterra website for an award honoring those who have gone to great lengths to reduce the carbon emissions within their communities.

Acterra’s annual Drive Less Challenge prompts individuals to reduce solo driving by carpooling, using public transportation, biking, or walking for two weeks. In 2010, 29,000 “green miles” were logged, saving 17,500 pounds of carbon emissions. Another great outcome is that over half the participants made their new green travel a habit after the challenge. Microsoft sponsors the program and was also pleased to sponsor Acterra’s recent 40th-anniversary celebration.

Join with Acterra to help the environment. There are countless ways for individuals or groups to volunteer. They also appreciate donations. Visit acterra.org.

Acterra volunteer Sara Witt removes invasive plant species to restore a local ecosystem.



Better together

Consortium transforms environmental education in a school district

STORY
04

The Bay Area is known as a center for science and innovation. Yet only 46 percent of 5th-grade students in the region scored proficient or above in 2007 testing, and nationwide in 2005 only Mississippi ranked lower in science achievement than California’s 8th graders.¹

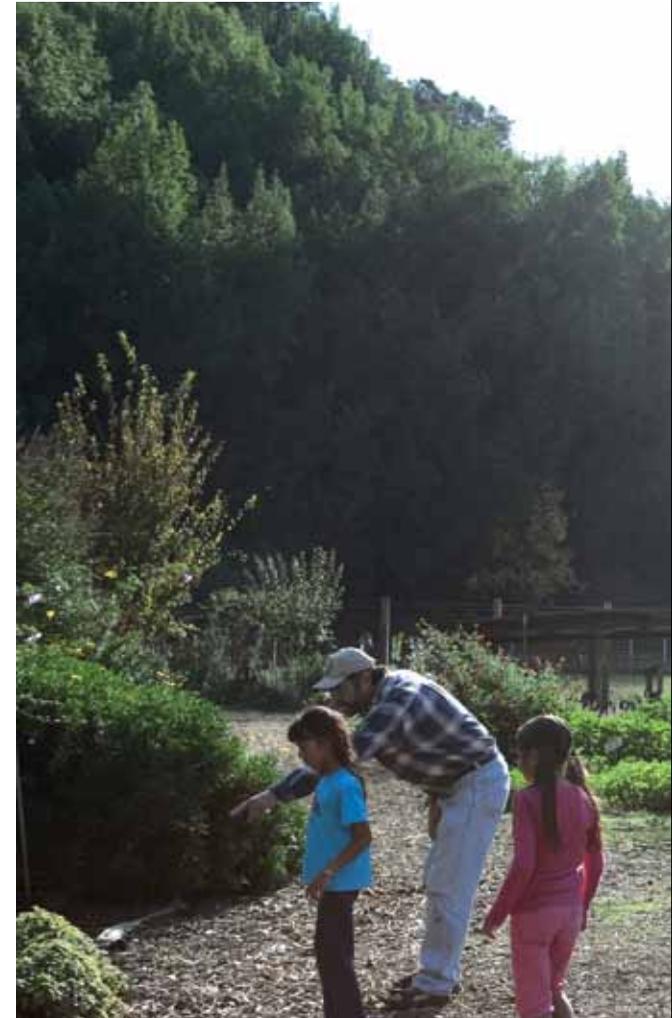
Eighty percent of Bay Area elementary school classrooms have less than an hour of science instruction per week.¹ Field trips and other activities that expose children to nature and exciting science learning can be expensive, and many schools can’t afford them.

A consortium of educators, nonprofit organizations, and community funders has joined to bring a new model of science education to the Mountain View Whisman School District (MVWSD). “It offers our students, especially our low income students, more opportunities to learn science content in an exciting and hands-on way,” says Associate Superintendent Dr. Mary Lairon. She anticipates “students will both learn more about the environment and develop a more positive attitude about science and the environment through the program.”

The consortium has a coordinated, strategic approach to environmental education in MVWSD. Environmental Volunteers (EV), Hidden Villa, Youth Science Institute, Santa Clara Audubon Society, and six others are the participating nonprofits.² Allan Berkowitz, executive director of EV, describes the collaboration between the education providers: “We link our existing programs in logical fashion so they reinforce each other, then deliver them to the same classrooms so that collectively we’re delivering more science education without any one of us having to increase capacity.”

So far, Microsoft, the Frieda Fox Foundation, the Morgan Family Foundation (MFF), and the Sand Hill Foundation are funding this work. MFF led the effort to coordinate with donors and work with the school district. Carol Olson of the MFF describes the consortium as “an educational ecosystem, where all of us in the community recognize the importance of education; it’s going to take funders as well as the service providers and the district collaborating on a long-term basis. This is all of our responsibility.”

Fourth and fifth graders in the district are already benefiting from the consortium and with ongoing



Visits to Hidden Villa are part of a new, integrated science education program in the Mountain View Whisman School District.

funding, the program will expand to K-8 within a few years. Based on the results, this approach may one day serve as a model for all California school districts.

To support this effort, you can make donations through Environmental Volunteers at evols.org with a note that it is for the Mountain View Whisman School District Science Education Consortium.

¹ www.lawrencehallofscience.org/rea/bayareastudy

² Environmental Volunteers, Hidden Villa, and the Marine Science Institute are profiled in stories 3 & 4 of this issue of Catalyst.

Mary Paine has been active with Environmental Volunteers for 38 years.



The nature of giving

STORY
05

Volunteers energize new generations of environmental stewards

Many nonprofit organizations rely on the help of volunteers, but at Environmental Volunteers (EV), they're the heart of the organization. EV sends teams of trained docents on field trips and into classrooms to give hands-on science lessons to kids in San Mateo and Santa Clara counties. EV's volunteers inspire young people to become the next generation of environmental stewards while they learn science. It's energizing for the kids and the volunteers.

"There is nothing that's more important at any time than making sure a volunteer is supported."

**—Allan Berkowitz,
Executive Director,
Environmental Volunteers**

"For 38 years, we have successfully harnessed a massive amount of volunteer spirit and we offer the community the chance to make a meaningful difference in the lives of teachers, kids, and the quality of life of our shared community," says Executive Director Allan Berkowitz.

EV is committed to making sure that all children have access to great science education, and Microsoft has provided EV a donation to support delivery of programs to classrooms in low-income areas. During the 2009-10 school year, 12,000 children benefited from EV's volunteer-led programs and summer camps. There's high demand for their services—each May, online registration for the next school year sells out in hours.

How do you keep a great volunteer?

Attracting and retaining talented, motivated people is a challenge for all organizations. EV seems to have found the key; of their 100 current volunteers, nine have spent more than 30 years with EV. Mary Paine was part of EV's first volunteer training class and has been giving her time to EV for 38 years.

"There is nothing that's more important at any time than making sure a volunteer is supported," explains Berkowitz. "The fact is that at the core of this organization is an incredible pool of volunteers who love what they are doing, and the culture of the organization fosters extreme respect for those volunteers. We never miss an opportunity to say 'Thank you, you're appreciated!'"

EV celebrates "Valentine's Day" every February with a token of appreciation for each volunteer and sends birthday cards with a personal note from each staff member on their birthday.

Looking to the future

EV is increasing its collaboration with other environmental education nonprofits in the region and is one of the lead service providers in a new district-wide environmental education effort (see story 6).

They hope to soon relocate to their new "EcoCenter" headquarters at a historic boat-shaped building in the Baylands Nature Preserve. When complete, it will be a center for hands-on learning to promote environmental stewardship for visitors of all ages.

EV needs classroom volunteers, and no experience is required. There's an emerging need for bilingual volunteers. There are also other ways to volunteer, and donations are welcome, including for sponsorships of classrooms and volunteer training. Visit evols.org.



Hidden Villa's organic garden is just one of its many different environments for visitors to explore.

On land and sea

Hands-on experiences foster love for the environment

The Bay Area has abundant natural beauty and diverse ecosystems, but most residents rarely explore them. For generations, two organizations have been bringing people in contact with nature to teach them environmental science and instill a sense of stewardship for our planet.

When science is taught with a hands-on approach that enables students to make their own discoveries, it's very effective. Hidden Villa and the Marine Science Institute give children and adults the chance to discover and enjoy special facets of the Bay Area.

An island of tranquility

Just a couple of miles from busy Highway 280 on the Peninsula, there's a place that promotes harmony for all living things—a sanctuary where the voices of birds, children, and farm animals are often the only sounds you'll hear. You can enjoy nature and feel like you're a million miles away from the fast pace of Silicon Valley.

Hidden Villa (HV) is based on a 1,600-acre organic farm and wilderness preserve. It has a unique dual mission: environmental education and social justice. They offer education, summer camps, a hostel, and other activities that join people with nature and each other. Microsoft sustains both aspects of HV's mission by sponsoring their annual fundraising gala and supporting their work to bring better science education to 4th and 5th graders in Redwood City.

HV has a long history. The Duveneck family lived there beginning in the 1920s and founded the first hostel on the Pacific Coast in 1937. In 1945, to help combat racism and sexism, they established the first multicultural

summer camp for kids. "The challenges they identified decades ago continue to exist and we continue to work to resolve them," says Chris Overington, executive director. HV's newest program empowers high school youth to have a voice in their communities and allows them to explore green careers at HV.

The hostel and camps still thrive, as does the environmental education program launched in 1970. The education activities at HV are all hands-on and leave a lasting impression. About 50,000 people visit HV each year and participate in programs, explore the farm and gardens, and hike the eight miles of trails.

HV cultivates environmental stewards and community leaders by fostering attitudes of respect for nature and people, starting with young children and continuing to support them into adulthood. Seven-year-old summer camper Karina Lipe captured it all when asked what she learned at HV: "Nature is very cool. You should be nice to your new friends. And you shouldn't tug really hard when you're walking the baby goats!"

Welcome to the Big Top

Many Bay Area kids have never been to the bay's edge, and those that have can't see what's in it because the water isn't clear. As columnist Dave Barry said, "When you finally see what goes on underwater, you realize that you've been missing the whole point ... Staying on the surface all the time is like going to the circus and staring at the outside of the tent."

Since 1970, more than a million Bay Area residents have looked into the "circus" of San Francisco Bay, its delta, and the ocean, thanks to the Marine Science Institute (MSI). Microsoft is helping to increase that number through a donation to MSI.

MSI considers its hands-on approach to education the key to its success. It's the only organization in the Bay Area that puts students as young as pre-K aboard a ship on the bay to discover marine life and the scientific methods for gathering information about it. They offer programs at tide pools and wetlands, and in classrooms, but the highlights are their trips on the R/V Robert G. Brownlee, a 90-foot custom-built floating classroom. On each voyage, they trawl the bay, and the children observe and record the animals that emerge and measure the temperature and chemistry of the water.

Every year, 30,000 people enjoy MSI's school and family programs, summer camps, and special tours. Though based in Redwood City, MSI moves the ship to Antioch for a few months a year to allow students to explore the delta region. "We won't think our job is done until we reach every kid in the Bay Area," says Marilou Seiff, executive director.

MSI has a treasure trove of information about the fish found in the bay—a legacy of all the kids who have collected the data since 1970. Researchers use it to gauge the impact of bay restoration and for other studies.

MSI is excited about the future. They're introducing a biomimicry curriculum and hope to get a second ship to expand their reach. They're also looking for a permanent home, as they don't own the bayside land where they're located.

Want to be involved? Sign up for HV's online newsletter, visit, join in a program, volunteer, or make a donation at hiddenvilla.org. MSI is seeking board members and help to make fish data and biomimicry information more accessible on their website. They welcome donations, especially of land or help to purchase land for a permanent site. Go to sfbaymsi.org.



Marine Science Institute's "floating classroom" brings San Francisco Bay to life for students.

Less is more

Regional greenhouse gas reductions grow the clean energy economy

The Bay Area and its citizens need a healthy place to live and a strong economy. Both are now threatened by global climate change because climate issues are pervasive, touching on many aspects of how a community and the companies and other institutions within it operate. The good news is that a collective regional effort to reduce greenhouse gases can boost the development of the clean energy economy.

To meet the mandates of California's landmark AB32 Global Warming Solutions Act, municipalities are charged with reducing greenhouse gas emissions to 1990 levels by 2020, and by even better improvements thereafter. To coordinate efforts in nine Bay Area counties and 101 cities within them, the Bay Area Climate Collaborative (BACC) was formed to break down regional barriers and accelerate the clean energy market. Microsoft is supporting those efforts by contributing to BACC.

The BACC was formed in 2009 when the mayors of San Francisco, Oakland, and San Jose signed a compact to address 10 specific action areas, including green building, transportation, renewable energy, and water use, and set timelines and targets for each. The collaborative is also dedicated to helping Bay Area communities prepare for and adapt to the impacts of climate change. Partners in business, the nonprofit sector, and 13 other municipalities are joining the three cities in this regional effort.

As Bay Area municipalities work to meet AB32 goals, there is tremendous benefit for the business sector, NGOs, and government agencies to be involved in the effort. AB32 mandates impact costs and change

processes, and those then affect all of the entities and residents within the municipalities.

However, the most significant economic opportunity this collaboration offers is the development of the clean energy market. The Bay Area is known worldwide as a center of technology innovation, and clean technology offers the chance to develop new products and services. There are already well over 400 cleantech businesses in the Bay Area, and the number is growing. With the Bay Area's large population and energy needs, the region in itself is a significant market for cleantech, and what is developed here can be marketed throughout the world for the benefit of all people.

The global market for energy and transportation is \$7 trillion, and the Bay Area is already the statewide leader in green jobs. Green jobs have grown by at least 36 percent in California since 1995 and a successful regional clean energy effort will further hasten job development.

One of BACC's recent efforts is the Local Government EV Fleet National Demonstration Project, a two-year, \$5 million national demonstration to showcase electric vehicles in government fleets. Over 100 electric vehicles will be deployed for use for government transportation functions. By bringing analysis and visibility to the project, it will encourage electric vehicle adoptions regionally and nationally.

Silicon Valley origins

BACC is an offshoot of the Silicon Valley Leadership Group (SVLG), a leading organization that advocates for policies that promote research and development, innovation, and the clean energy economy. In

addition to BACC, Sustainable Silicon Valley (see story 2), and SolarTech, which works to accelerate local solar markets, were all incubated by SVLG before becoming independent.

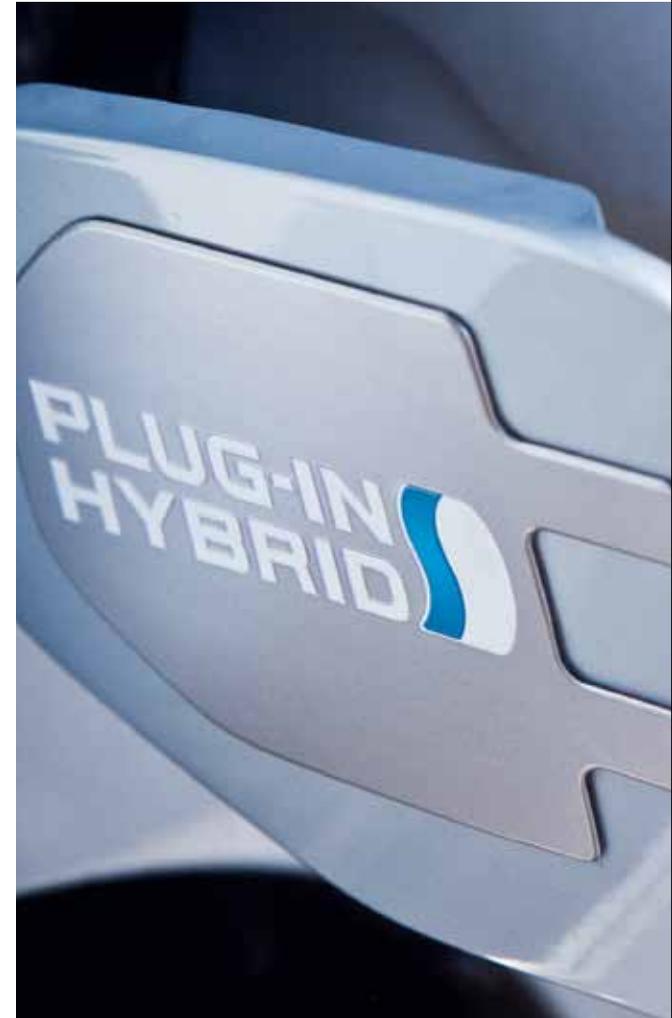
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SVLG has a long history of getting businesses, government agencies, and nonprofits together around a common purpose. Its 320 members, which include Microsoft, represent high-tech, biotech, and cleantech industries.

SVLG's approach to environmental work isn't obstructionist; "We don't throw up roadblocks, we don't draw bright lines in the sand. We try and work to get to a solution that everyone can benefit from," says Mike Mielke, senior director of environmental programs and policy at SVLG. The organization often takes positions that others don't. "We were one of the first business organizations to support AB32," adds Mielke.

BACC invites you to help shape the market and help Bay Area cities meet their climate goals by becoming a partner. Go to baclimate.org. To learn more about SVLG or become a member, visit svlg.org.

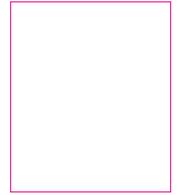
Bay Area Climate Collaborative director Rafael Reyes promotes regional innovation in clean energy.



BACC is leading a project to promote energy-efficient government vehicles.

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