

Today's Youth: Tomorrow's Green Workforce

California's youth and young adults now have opportunities to learn skills to help them get jobs in the emerging green economy. At the same time, they are learning about energy and climate change through innovative programs that blend academics with hands-on career training.

Green training programs that focus on youth and young adults also contribute to local economies and job expansion. Many programs provide local agencies, residents or businesses with interns eager to provide energy audits and retrofits or help local agencies complete greenhouse gas emissions inventories. Although some programs require modest financial contributions from the participating agencies, the benefits realized help both the local agencies and residents.

Building Job Skills in Energy Efficiency

A wide range of programs sponsored by nonprofit organizations and community colleges, often in collaboration with local agencies and one or more of California's investor-owned utilities, teach youth and young adults about energy efficiency, conducting energy audits and how to install energy-efficient equipment.

The City of Pleasanton offers a program, now in its third year, that trains youth to conduct "green house calls" that help residents save energy and water. "Residents save money on utilities while learning about water and energy conservation," says Laura Ryan, Pleasanton's manager of energy and sustainability. "The youth receive in-depth training and paid jobs to prepare them for careers in energy and the environment, and our community reduces its overall carbon footprint. We all win."

The program is made possible through a partnership of Pleasanton, California Youth Energy Services (CYES) and Pacific Gas and Electric Company (PG&E). CYES trains and oversees the Energy Specialist teams, which are located in Pleasanton and 13 other San Francisco Bay Area cities. Pleasanton contributes to the cost of the program, which expanded this summer to include mobile home parks and additional community outreach. CYES offers similar programs in Antioch, El Cerrito, Oakley, Pinole, Richmond and San Pablo.

Pleasanton youth teams completed about 300 free energy- and water-efficiency home assessments in summer 2011, installing water and energy conservation equipment such as faucet aerators, compact fluorescent bulbs and hot-water pipe insulation.

The Alliance to Save Energy, a national nonprofit organization, leads two innovative programs in California to reach K-12 youth and young adults attending community

colleges and universities. Its PowerSave Schools Program (formerly Green Schools), funded by Southern California Edison, educates K-12 students about energy and its link to the environment and finances, while engaging them in saving energy at their schools. For example, students calculate the amount of carbon dioxide emissions generated by electricity use, along with the costs of using electricity. Students learn that by saving energy, their schools, families and businesses can also save money and help protect the environment. The program includes presentations from green professionals and hands-on energy audit training that cover using auditing tools, analyzing data and making recommendations to each student's school and community.

On average, PowerSave Schools reduces energy consumption and costs by 10 to 15 percent each year, which saves hundreds of thousands of dollars for school districts. During the 2010–11 school year, 65 schools in three school districts in Southern California reduced their energy use by nearly 13 percent, saving more than \$680,000.

The alliance's PowerSave Campus Program (formerly Green Campus), a statewide collaboration with California's four investor-owned utilities, operates on 16 University of California and California State University campuses. This energy-efficiency workforce training program builds pathways to green careers by generating real energy savings on campus, infusing energy-efficiency concepts into academic curricula and conducting outreach initiatives. For example, students conduct energy audits and assessments of college campus buildings to identify and facilitate energy-efficiency retrofits and easy-to-adopt behavioral changes for building occupants.

Developing Energy Efficiency Professionals (DEEP) is a collaboration between the California Community College State Chancellor's Office, the Foundation for California Community Colleges and Southern California Edison. "Together, we are helping the next generation take a leadership role as trained professionals," says Dee Patel, principal of the DEEP program. "The green job training programs empower students to make a difference on issues of sustainability and energy efficiency at the same time that they learn skills to help them find professional jobs in the local green economy."

Through pilot projects at three Southern California community colleges, DEEP blends academic learning and hands-on projects in energy efficiency and sustainability. DEEP also includes a partnership with the U.S. Green Building Council, which sponsors the Leadership in Energy and Environmental Design (LEED) system, a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions. Through the partnership, students develop skills needed for a LEED Green Associate certification, a relatively new certificate considered one of the first steps to many green energy jobs.

The Alameda County Office of Education offers a new program, Leadership in Energy Efficiency Program (LEEP), that teaches high-school and community-college students about energy efficiency and equipment, emphasizing skills that are directly transferable to green careers and employment opportunities. "We wanted a program that saves schools

money, energy and water at the same time we educate high school and college students in green job skills,” says Yvonne Tom, energy efficiency program manager with the Alameda County Office of Education. LEEP works with existing Green Academies in Alameda County school districts and is part of PG&E’s Innovator Pilots program.

LEEP’s high-school age interns learn about energy audits through hands-on projects like light counts and thermostat checks. Although the engineering firm hired to do the actual audit prepares the data analysis and recommendations to the school board, the green interns attend the school board presentations as observers. If energy-efficiency retrofits are installed, the interns observe the installation.

Students attending Ohlone and Laney community colleges in Alameda County receive hands-on energy assessment experience as paid interns. They use the U.S. Environmental Protection Agency’s Portfolio Manager software to assess, compare and monitor energy usage in buildings. Based on initial data analysis of buildings in nine school districts, the students recommend where to perform full energy audits and help install energy-efficiency equipment.

Skills Related to Climate Change

Several newer programs offer students opportunities to delve deeper into areas related to climate change. The programs provide training and real-world experience as students help cities and counties complete greenhouse gas emissions inventories and prepare climate action plans.

The Association of Monterey Bay Area Governments (AMBAG) was one of the first local government associations to use graduate student interns as part of its activities related to climate change. AMBAG worked with students from the Monterey Institute of International Studies and California State University, Monterey Bay, beginning in 2009. Eighteen students learned how to conduct greenhouse gas emissions inventories for local government operations, and many of them subsequently launched careers that use this training. The program was a collaboration of AMBAG Energy Watch, PG&E, ICLEI-Local Governments for Sustainability (formerly known as the International Council for Local Environmental Initiatives), the Monterey Institute of International Studies and California State University, Monterey Bay.

In the San Francisco Bay Area, Climate Corps Bay Area focuses on reducing greenhouse gas emissions. Each year Climate Corps Bay Area places 30 AmeriCorps National Service members with local governments and nonprofits to help implement greenhouse gas reduction projects. For example, a Climate Corps member works with the cities in San Mateo County to prepare greenhouse gas emissions data that are added to a set of online tracking tools, the Regionally Integrated Climate Action Planning Suite (RICAPS). These tools, developed by the City/County Association of Governments of San Mateo County, help cities prepare climate action plans and track their progress in reaching the plan’s goals.

“It’s a win-win experience,” says Susan Wright, resource conservation specialist with San Mateo County’s Energy Watch Program. “Climate Corps Bay Area members provide a valuable service for resource-strapped cities and learn marketable job skills at the same time.”

In the San Diego region, 12 undergraduate and graduate students hired as climate fellows led data collection and analysis to complete greenhouse gas emissions inventories for 17 local governments. With support from the San Diego Foundation, Kaiser Permanente and San Diego Gas & Electric, staff from ICLEI-Local Governments for Sustainability worked with the interns and agency staff to complete the inventories in two phases; the first phase started in 2009. “The skills I learned doing greenhouse gas inventories helped me immediately on my thesis project. The climate change experience with local governments was highlighted on my résumé when applying for jobs after graduation,” says Allison King, a former climate fellow.

Paths to a Brighter Future

These efforts to teach youth the skills needed to thrive in the new green economy illustrate how California’s communities are combining creativity, innovation and vision to produce a brighter future.

Tips for Local Officials to Consider

Local officials who want to help youth and young adults connect with the emerging green technology and sustainability workforce can consider the following ideas.

- Find out if your local community college offers green job training or internships.
- Are there opportunities for your agency to offer an internship for youth or young adults who participated in college or other green job training programs? Consider sharing your agency’s needs with local professors who teach environmental courses and may be able to match your agency with a student.
- Check with your local utility about green job or workforce development programs in which it may be involved, such as energy audits and energy-efficiency programs.
- Offer to participate in green job education programs as a “real world” expert.

Related Resources and Links

(If using a printed copy of this whitepaper, please go to www.ca-ilg.org/YouthGreenWorkforce to access the links below.)

Programs and Resources

[City of Pleasanton Energy and Sustainability Division](#)

The Energy and Sustainability Division develops and implements strategies to assist Pleasanton residents, employees, and business owners improve energy efficiency and conserve natural resources.

[Rising Sun Energy Center – California Youth Energy Services](#)

Rising Sun Energy Center provides green workforce development training and employment that creates green career pathways for youth and adults.

[Alliance to Save Energy](#)

The Alliance to Save Energy is a national nonprofit organization that promotes energy efficiency worldwide through research, education and advocacy. The alliance encourages business, government, environmental and consumer leaders to use energy efficiency as a means of achieving a healthier economy, a cleaner environment and increased energy security.

- [PowerSave Campus \(Green Campus\)](#)
- [PowerSave Schools \(Green Schools\)](#)

[Developing Energy Efficiency Professionals \(DEEP\)](#)

DEEP is an employment development program that trains and educates California community college students in the areas of energy efficiency and demand-side reduction, with the ultimate goal of preparing students for green careers.

[Alameda County Office of Education](#)

Alameda County Office of Education provides, promotes and supports leadership and services to ensure the success of every child in its 18 school districts. [Leadership in Energy Efficiency Program](#) (LEEP) provides energy-efficiency audits and projects for school districts and engages high-school and community-college students in the process.

[AMBAG Energy Watch](#)

The Association of Monterey Bay Area Governments (AMBAG) Energy Watch offers energy efficiency services to residents, businesses and governments in the three-county Monterey Bay region.

- [AMBAG GHG Inventory Internship Program Case Story](#)

[Climate Corps – Bay Area](#)

Climate Corps Bay Area brings together 30 AmeriCorps Volunteers a year to work with local government and nonprofit community partners to address climate change in the San Francisco Bay Area. The program's goals are to:

- Assist with implementing programs that have immediate and measurable reductions in the community's greenhouse gas emissions;
- Measure, track and report the emission reductions to community agencies; and
- Recruit, engage and build long-term volunteer involvement in the process.

Climate Corps Bay Area is a partnership program of [Strategic Energy Innovations](#) and [Bay Area Community Resources](#).

[San Mateo County Energy Watch](#)

San Mateo County Energy Watch provides energy-efficiency services and incentives to qualifying public agencies, nonprofit organizations, residents and businesses. The City/County Association of Governments of San Mateo County (C/CAG) developed the [Regionally Integrated Climate Action Planning Suite \(RICAPS\)](#) to aid cities and towns in San Mateo County in developing their own climate action plans.

[The San Diego Foundation](#)

The San Diego Foundation, through its [Climate Initiative](#), is committed to providing philanthropic investment and leadership to help reduce the San Diego region's carbon footprint and minimize risks from the local impacts of climate change. To reach these goals, the foundation supports locally based research, nonprofit climate action and training for [climate fellows](#), as well as technical assistance and peer-to-peer networking for local governments and public agencies.

[ICLEI – Local Governments for Sustainability](#)

As part of the Statewide Energy Efficiency Collaborative, ICLEI provides tools and resources to help local agencies prepare greenhouse gas inventories and climate action plans. Learn about free [ICLEI resources for California cities and counties](#) developed as part of the SEEC partnership.

Statewide Energy Efficiency Collaborative (SEEC)

The Statewide Energy Efficiency Collaborative (SEEC) provides support to cities and counties to help them reduce greenhouse gas emissions and save energy. SEEC is an alliance of three statewide nonprofit organizations ([Institute for Local Government](#), [Local Government Commission](#) and [ICLEI – Local Governments for Sustainability](#)) and California's four investor-owned utilities. It builds on the unique resources, expertise and local agency relationships of each partner.

- [Pacific Gas and Electric Company](#)
- [San Diego Gas & Electric Company](#)
- [Southern California Edison](#)
- [Southern California Gas Company](#)

Additional Resources

- [California Volunteers: Green Job Corp](#)
- [The InternSource: A Program of the Community College Foundation](#)
- [California Department of Education: California Partnership Academies \(CPA\)](#)
- [U.S. Green Building Council \(LEED\) – LEED Green Associate Certificate](#)
- [Students Gain Professional Experience While Helping to Safeguard the Environment](#) (California State University, Stanislaus)
- [California State University, Chico Sustainability Internship Program](#)

This resource is a service of the Institute for Local Government (ILG) whose mission is to promote good government at the local level with practical, impartial, and easy-to-use resources for California communities. ILG is the nonprofit 501(c)(3) research and education affiliate of the League of California Cities and the California State Association of Counties. For more information and to access the Institute's resources on sustainable communities, visit www.ca-ilg.org/sustainability. To access this resource directly, go to www.ca-ilg.org/YouthGreenWorkforce.

The Institute welcomes feedback on this resource:

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