



Sustainable Education Value for Money

Enabling Careers that Last a Lifetime

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www.goingevergreen.org

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Demonstrating Career Readiness and Competency is the Difference

The approach outlined in this overview has unique elements informed by the purpose and perspective brought to the mission of educating students for long-term career success. These elements are why we believe our strategy offers the greatest amount of educational value for the money invested in our programs.

The tangible outcomes that can be realized fall into three categories. First, our strategy enables educational institutions to overachieve in securing education funding and grants. Second, educators can enhance their professional credentials, reputation and preparation. Third, it enables educational institutions to position their students for success in gaining the industry certifications needed for immediate and long-term career success. Fourth, our strategy is based on substantially more effective community engagement with communities. The community model enables parents, employers and institutions to jointly collaborate to create the environment needed to demonstrate educational effectiveness generate a community return on investment and give real-life opportunity to show competency and mastery of the skills that lead to long-term career, professional and life success.

There will be exceptional career and professional opportunities for student, teachers and parents. The approach outlined below is the key to unlocking the door to that success.



1. Securing Educational Funding and Grants

Green Academic education can enable educational institutions to receive a consistent flow of resources to their goals. This is profoundly important in the reality of over \$40 billion in projected state education budget shortfalls for FY2009 and FY2010. '09 and FY '10. The good news is that for the quarter ending Dec. 31, 2009, grant recipients reported that funds received from these sources enabled over 300,000 education jobs, such as teachers, principals, librarians, and counselors. In total, the Department of Education funding supported approximately 400,000 positions including corrections officers, public health personnel, and construction workers.

2. Enhancing Professional Preparation

Internships and other forms of professional preparation are including in our strategy. For example, we invite education professionals to take advantage of 10-week summer internship opportunities. Participants gain valuable experience in their academic field, receive bi-weekly stipends, and round-trip travel expenses from their school to their assigned internship sites. Internship opportunities address a variety of academic fields, including but not limited to:

- All Engineering Disciplines: Nuclear, Electrical, Mechanical, Civil, etc
- Business Administration, Operations Management, Marketing, Finance, Procurement/Contracts
- Information Technology, Computer Science, Computer Engineering, Information Systems



- Physical Sciences, Biology, Chemistry, Math/Statistics
- Social Sciences, Public Administration, Economics, Law, Security

Teachers considering internships should ask the following question:

What unique world-class projects would be most valuable to participate in?

Stipends paid vary but representative amounts for undergraduate students are up to \$550 per week and for graduate students up to \$600 per week.

There are also opportunities in management and operations too. For example,

- Year-round student-run co-ops
- Scholarships program administration
- Information administration for summer internship
- Legal counsel internships
- Supporting diversity programs

There are research opportunities at Department of Energy (DOE) Lab and Technology Centers

- Institute for Science
- Fossil Energy Fellowship
- Science Biological and Environmental Program
- Community College Institute
- Pre-Service Teacher



3. Preparing Students for Industry Certification

The curricular and work experience components of our program are designed to enable students to work towards the following types of industry certifications

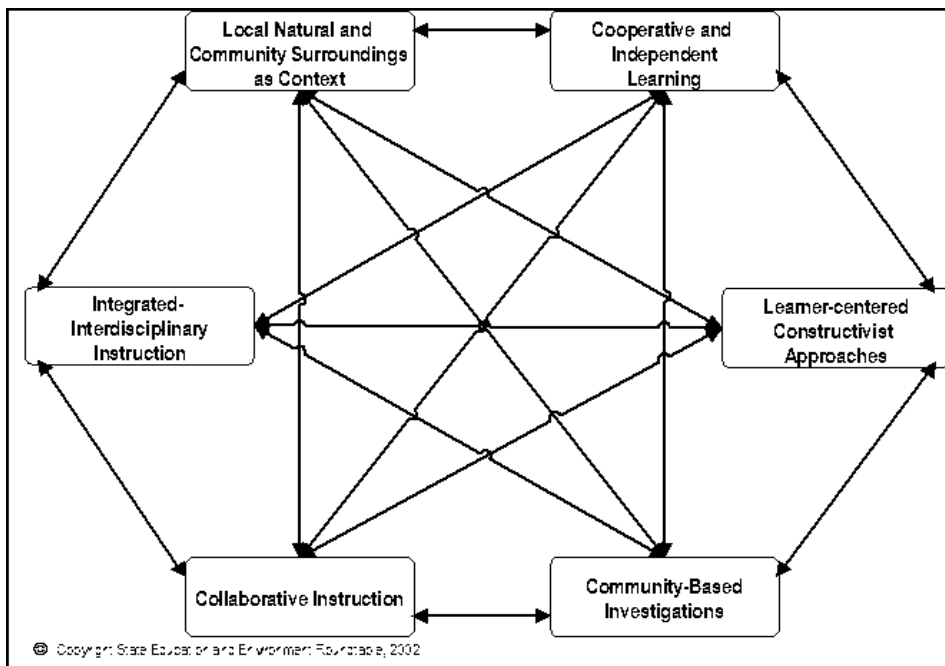
- Solid Waste Reduction
- Recycle or Reuse Materials
- Reduced Office Waste
- Purchase Used or Recycled Content
- Energy Savings
- Water Conservation
- Pollution Prevention
- Chemical Reduction
- Potential Pollutants
- Reduce Vehicle Emissions
- Environmentally Friendly Purchasing
- Energy and Utilities Industry

4. Community Engagement

The strategy in this program weaves together six education "best practices":

- Integrated-Interdisciplinary Instruction - crossing traditional subject-matter boundaries;
- Collaborative Instruction connecting teachers, students and the community in shared learning experiences;
- Community-Based Investigations offering hands-on and minds-on experiences relevant to students' lives;
- Learner-Centered, Constructivist Approaches building on students' interest, needs, knowledge and experience;
- Cooperative and Independent Learning promoting collaboration among students yet encouraging individual students to maximize their potential; and,
- Using local Natural and Community Surroundings as the Context for instruction, learning and service.

The diagram below depicts this integrated strategy



The position we espouse is that schools need to incorporate the local community as a dynamic context for the science, history/social science, English/language arts and math components of a Green Academic program.

The benefit of this approach:

- higher scores on standardized measures of academic achievement in reading, writing, math, science, and social studies;
- reduced discipline and classroom management problems;
- increased student engagement and enthusiasm for learning; and,
- greater pride and ownership in students' accomplishments.



This Integrated Model educational strategy utilizes local community showcases as the venue for demonstrating achievement and competence. The strategy enables educators to use the local natural and community surroundings the interconnecting context for all educational practices and standards-based instruction. This has the benefit of developing students' understanding of:

- natural systems in their community;
- social systems and their community's cultural characteristics; and,
- interrelationships and interactions among natural and social systems and their components.

Community showcases enable educators to offer student opportunity to:

- Apply skills and knowledge in local surroundings;
- Investigate real-world community problems and issues;
- Use of higher-level thinking and creative problem-solving skills to achieve comprehensive understanding of the complexity of real-world problems and issues involving the interaction of their natural surroundings with diverse cultural, economic, and political perspectives and interests; and
- Pursue authentic issues of personal interest to them.



Community showcases **in the context** of an integrated, interdisciplinary instruction model enables educators to:

- Provide students with opportunities to explore connections between subject area disciplines and, among natural and social systems;
- Coordinate students' learning between subject areas and class periods; and,
- Cross traditional disciplinary boundaries to allow students to develop a holistic and comprehensive understanding of natural and social systems.

Community showcases **in the context** of Service-Learning model enables educators to:

- Support students as they undertake and monitor service-learning activities;
- Require students to reflect on their service-learning activities and communicate their findings to classmates, teachers and other appropriate audiences both inside and outside of their community; and
- Create a continuum of learning that crosses grade levels and allows students to conduct multi-year research and service-learning projects that contribute to their community.

Community showcases **in the context** of a Collaborative Instruction model enables educators to:

- Involve students and community members in planning and instructional delivery;
- Provide opportunities for teachers to model positive team relationships; and
- Allow teachers to have regularly scheduled team meetings.



Community showcases **in the context** of a Learner-centered, Constructivist model enables educators to:

- Account for students' individual learning styles, multiple intelligences and cultural background to insure effective instructional design and practices in the context of the local community;
- Assist students as they initiate self-directed courses of study;
- Allow students to construct their own understandings; and,
- Support students as they define specific learning goals and objectives.
- Facilitate students as they form teams to work on projects and investigations;
- Assure that student teams include a wide range of learning styles and ability levels; and,
- Help students develop group membership skills.

Hands-on Educational Curriculum that Engages Students and Builds Career Prospects

The environmental literacy curriculum described below is concerned with understanding how human actions and decisions affect environmental quality and acting on that understanding in a responsible and effective manner. The curricular approach has four essential components:

1. Developing inquiry, investigation and analysis skills.
2. Acquiring knowledge about environmental processes and human systems.
3. Fostering skills to understand and address environmental issues
4. Practicing personal and civic responsibility for environmental decisions.

Using this comprehensive scope and purposeful sequence gives students the best chance of achieving effective environmental literacy. Schools support students via this closed-loop consideration of environmental literacy and by providing experiences that enable students to develop the knowledge and skills-sets necessary to accelerate entry into the job market while practicing responsible and productive careers strategies.

Results Are What Counts

A report issued recently by the U.S. Federal Department of Energy (DOE), demonstrates that schools that have adopted environmental education as a central focus of academics program attained educational outcomes and results that directly contribute to improving the effectiveness and quality of the education students are exposed to.

This study revealed the following student outcomes:

- Improved reading and mathematics scores
- Better performance in science and social studies
- Greater facility to transfer knowledge from familiar to unfamiliar contexts
- Students leaned to “do science” rather than just “learn about science”
- Fewer classroom discipline problems
- Higher likelihood of students having the opportunity to more effectively learn more challenging material

Hallmarks of Quality

Teaching and learning about environment can surface controversies that require fair and balanced treatment in classrooms. Whether teach is done by a sole practitioner or in a team teaching setting, selecting developmentally appropriate topics and materials is essential to success.

The curriculum delivered emphasizes hands-on field-validated training complemented by an integrated core curriculum that exposes students to multiple disciplines operating within the Energy and Utilities Industry Sector. We also incorporate topics from a range of technical and subject matter domains such as forestry, soils, water resources, wildlife and human dimensions of effective resource management.

To enable this curricula approach to have the optimal opportunity to succeed, field-oriented and industry-validated approaches are vital and pre-requisite to truly effective learning. Consequently, this process has very early on in its implementation the deployment of a minimum of three field stations; the selection and final specification can be undertaken in a collaborative manner while being deployed in a turnkey manner.

Subject Area Coverage

The following areas are in the curricular scope; the subject range incorporated into a school's plan can be co-determined collaboratively.

- ✓ Fine Arts
- ✓ Health
- ✓ Language Arts
- ✓ Math
- ✓ Science
- ✓ Social studies



Workforce Preparation Approach

Specific aspects of the training are designed to enable youth to attain, enhance, maintain and continually advance in the expanding green economy. This program increase vocational skills, job readiness and vocation management capabilities skills, which will directly connect students with career paths options in the green industry.

The service/training foci include:

- ✓ Assessment
- ✓ Career Exploration
- ✓ Eligibility
- ✓ Leadership Training
- ✓ On-going Support and Improvement Options and Services
- ✓ Orientation
- ✓ Work Readiness

Energy and Utilities Industry Sector Specifics

The modules in this curriculum are service skill-oriented, for example:

- ✓ Analyzing existing business and technology issues
- ✓ Analyzing technical market factors and considerations
- ✓ Developing improvement plans
- ✓ Evaluating benefits delivered by solutions
- ✓ Conducting feasibility studies
- ✓ Investigating, conforming and demonstrating compliance with regulatory mandates

Course Example

Marketing Fundamentals for the Energy Industry

Who Benefits from Taking this Course?

- New industrial or commercial representatives who want to know more about selling and marketing natural gas
- Former electric industry professionals who need to get up to speed quickly in these market sectors
- Those who want to earn Gas Consultant certification
- Any energy industry employee who deals directly with end users

Course Description:



This course provides an introduction to industrial and commercial gas market segments with a focus on developing and maintaining solid customer relationships. Students will participate in group problem-solving to reinforce the topics presented during the course. The course can be taken on its own or as part of certification programs. The program was updated in 2009 to incorporate greater modularity in delivery as well as having greater flexibility for customization.

Course Content:

- ✓ The History and Industry Structure of the Gas Industry as well as its Industrial and Commercial Markets
- ✓ Service: The New Challenge and Basis for Competitive Advantage
- ✓ Inside Sales: Selling and Servicing Over the Phone
- ✓ Dialogue and Consultative Selling
- ✓ Customer Behavioral Styles
- ✓ The Effects of Interpersonal Factors
- ✓ Economic Analysis
- ✓ Advanced Electric Rates—How to Interpret and Understand Electric Rate Structures and their Associated Issues Lead to Enable more Effective, More Informed Marketing
- ✓ Commodity Risk Management
- ✓ Understanding Market Behaviors and What Drives Markets
- ✓ Natural Gas Futures, Puts, Calls



Completion of the course and passing the final examination will grant students three (3.0) **Continuing Education Units: 3.0** (30 Professional Development Hours). This certificate is recognized by PG&E. In addition, this course enables students to apply for internship-oriented programs and presentation by Industry Expert. These presentations can include Show & Demonstration components. This course has 28 modules, which is equivalent to three years of study. This course completion certificate has been endorsed by Utilities Companies and various other Industry associations.

Environmental Stewardship is integrated into program design. Environmental education and civic responsibility is also incorporated throughout the program, through service learning programs, community forums. The modules and lessons include exercises in leadership, identifying community needs, and the rule of law. Participants will receive 48 hours of environment education and seven hours of civic education.

Local Partnership's and Leveraging Resources

Partners who can be integrated into the program include Community Colleges, Community Based Organization, Social Service Providers and Local Employers.

Other Available Modules

Sector Focus: Energy & Utilities Industry

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| Current Energy Affairs | School Energy Survey |
| Alternate Energy Sources | Yesterday in Energy |
| Electric Utilities | H ² O Educate |
| Electric Power Distribution | Transportation Fuels Debate |
| Electric Power Transmission | Wholesale Energy and Marketing |
| Fossil Fuel Power Generation | Waste Water Treatment |
| Energy Trading and Marketing | Water Distribution |
| Energy Exchange | Social and Cultural Skills |
| Fossil Fuels to Products | Basic Sciences Skills |
| Learning and Conserving | Natural gas Utilities |
| Learn about compositing | Independent Power Generation |
| Make a Recycling map for Your School | Community Showcases |
| Communication Skills | Energy & Utilities Industry Internships |
| Retail Energy Marketing | Energy & Utilities Industry Case Studies |



For More Information about implementing this program or to receive a quotation for this program, please contact Mr. Mahendra Shah, Program Manager, Going Evergreen, Post Office Box 731222, San Jose, CA 95173, mashahs@goingevergreen.org PH: 408-274-6218, 408-396-5654, Skype: mashahs www.goingevergreen.org



ADDENDUM



Community Showcase, Internship and Work Experience Program

25 January 2010



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Building Sustainable Community



Program Goals

- Enable student leadership.
- Mentor youth in personal, career, and educational development
- Demonstrate leadership in adopting practical sustainable careers, life choices and community behavior.
- Long term, green means jobs, economic benefits, and a better quality of life.



Program Overview

- Community showcase projects informed by formal curriculum.
- Weekly one-hour meeting of teachers and industry mentors supplemented by materials delivered via Going Evergreen Resource site.
- Student teams apply curriculum in student-defined community projects.



Planning Showcase Projects

- Recruit an industry sponsor
- Recruit community partner
- Set achievable goals with sponsor
- Adopt a regular planning process
- Set up regular planning meeting
- Demonstrate understanding of curricular materials and checkpoint competency



Potential Partnerships

- Santa Clara Valley Water District
 - Free indoor and outdoor water audits.
 - Toilet replacement program.
 - Free faucet aerators.
 - Irrigation system for landscaping.
- Pacific Gas and Electricity
 - Free energy audits.
 - Rebates and incentives for reducing usage.
- City of San Jose Environmental Services Dept.
 - Free bins for recycling, composting and trash.
 - Grants for schools to Go-Green.
- Santa Clara County Green Business program
 - Certifies Businesses and Schools adhere to sound environmental practices.
- Get Company Sponsorships
 - Have them sponsor one or two sustainability projects

Sample Projects

- Community conservation and awareness campaign
- Educating students
- Reducing water use
- Sustainability Showcases
- Pre-cycling Campaigns
- Recycling Campaigns
- Community Gardens
- Community Kitchen
- Competitions
- Note: Formal curriculum is available for each of the above projects



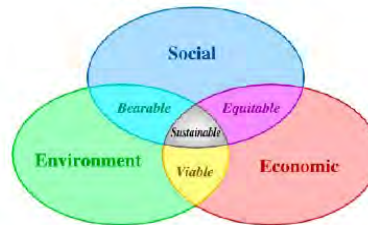
Questions?



*Community-
centric
Dedication to
Meeting The
Sustainability
Challenge*

Sus-tain-a-bil-i-ty :

**Meeting the needs of the present
without depleting resources , or
compromising the ability for
future generations to meet their
own needs**



Source: IDC