

Hyperlink E-Zines 2010

This project was funded fully or in part by Carl D. Perkins CTE Act of 2006 grant 08-159-001, awarded to Coastline Community College and administered by the California Community Colleges Chancellor's Office. It is the policy of Coastline Community College not to discriminate against any person on the basis of race, color, national origin, sex or disability in all of its educational and employment programs and activities.

April 2010

Funded by a grant from the Business/CIS Educators Statewide Advisory Committee

Hyperlink E-Zines 2010

The hyperlink e-zine December 2009: Issue I	4
What is Sustainability in Business?	4
White Paper on the Role of Business in Tomorrow’s Society	7
The hyperlink e-zine January 2010: Issue II	16
Social Media in the Classroom.....	16
Did You Know?	16
Fast Facts	16
13 Enlightening Case Studies of Social Media in the Classroom.....	17
50 Ideas on using Twitter in Education.....	17
NYC Helpline: How To: Incorporate Technology in the Classroom	18
Teaching (with Twitter) Tuesday.....	19
The hyperlink e-zine February 2010: Issue III – 2010 Mini-grants.....	21
Meet Our BESAC Conference Keynote Speakers	21
Mini-grant - Sierra College	23
Mini-grant - Cabrillo College.....	24
The hyperlink e-zine March 2010: Issue IV – 2010 Mini-grants.....	26
Meet Our BESAC Conference Keynote Speakers	26
Mini-grant - Hartley & Associates.....	27
Mini-grant - Los Angeles Valley College.....	29
Mini-grant - Mt. San Jacinto College	30

Business/CIS Educators Statewide Advisory Committee

The hyperlink e-zine March 2010: Issue V – 2010 Mini-grants	32
Meet Our BESAC Conference Keynote Speakers	32
Mini-grant - LA Valley College	32
Mini-grant - College of the Canyons	33
Mini-grant - Golden West College.....	34
The hyperlink e-zine April 2010: Issue VI.....	35
Cloud Computing	35
What is Cloud Computing?.....	35
Key Features of Cloud Computing.....	35
Google: 10 ways the cloud is good for business	37
Cloud Computing – What’s it good for?.....	39
Resources to share with students.....	41
Appendix A:.....	42
Green Prosperity – Executive Summary.....	42

Hyperlink E-Zines 2010

The hyperlink e-zine December 2009: Issue I

What is Sustainability in Business?

Sustainable business, or **green business**, is enterprise that has no negative impact on the global or local environment, community, society, or economy—a business that strives to meet the [triple bottom line](#) [people, planet, profits]...

...A sustainable business is any organization that participates in environmentally-friendly or green activities to ensure that all processes, products, and manufacturing activities adequately address current environmental concerns while maintaining a profit.

Source: Wikipedia - http://en.wikipedia.org/wiki/Sustainable_business

Triple Bottom Line - http://en.wikipedia.org/wiki/Triple_bottom_line

Quote:

“We are seeing the birth of a new perspective of the world, where ecology and economics are two sides of the same coin.” - Leif Johansson

Did You Know These California Green Industry Facts?

- Between 1995-2008, green businesses increased 45 percent, green jobs grew 36 percent while total jobs in the state grew only 13 percent.
- Employment in Energy Efficiency increased 63 percent from 1995-2008.
- Employment in Green Transportation has increased 152 percent since 1995.
- Green Logistics is an emerging field, only in the Bay Area at present, with employment growing by 1144 percent since 1995. [More](#)

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From the article: *Next 10 Report Shows Diversity and Distribution of California's Green Job Growth*

Source: My Green Education and Career (www.mygreeneducation.com)

Green-Collar Jobs Overview

Green For All believes green-collar jobs are well-paid, career track jobs that contribute directly to preserving or enhancing environmental quality. If a job improves the environment, but doesn't provide a family-supporting wage or a career ladder to move low-income workers into higher-skilled occupations, it is not a green-collar job.

Here are some other key characteristics of green-collar jobs

Green Collar Jobs Rebuild a Strong Middle Class

Green-collar jobs are good jobs. Like blue-collar jobs, green-collar jobs pay family wages and provide opportunities for advancement along a career track of increasing skills and wages. A job that does something for the planet, and little to nothing for the people or the economy, is not a green-collar job. The green economy cannot be built with solar sweat shops and Wal-Mart wind farms.

Green-Collar Jobs Provide Pathways Out of Poverty

Most green-collar jobs are middle-skill jobs requiring more education than high school, but less than a four-year degree -- and are well within reach for lower-skilled and low-income workers as long as they have access to effective training programs and appropriate supports. We must ensure that all green-collar jobs strategies provide opportunities for low-income people to take the first step on a pathway from poverty to economic self-sufficiency.

Green-Collar Jobs Require Some New Skills (and some new thinking about old skills)

The green economy demands workers with new skill sets. Some green collar jobs -- say renewable energy technicians -- are brand new. But even more are existing jobs that are being transformed as industries transition to a clean energy economy: computer control operators who can cut steel for wind towers as well as for submarines; or mechanics who can fix an electric engine as well as an internal combustion engine. We need identify the specific skills the green economy demands. Then we need to invest in creating new training programs and retooling existing training programs to meet the demand.

Green-Collar Jobs Tend To Be Local Jobs

Much of the work we have to do to green our economy involves transforming the places that we live and work and the way we get around. These jobs are difficult or impossible to offshore. For instance, you can't pick up a house, send it to China to have solar panels installed, and have it shipped back. In addition, one of the major sources of manufacturing jobs -- a sector that has been extensively off-shored -- are components parts for wind towers and turbines. Because of their size and related high transportation costs, they are most cost-effectively produced as near as possible to wind-farm sites. Cities and communities should begin thinking now about ways their green strategies can also create local jobs.

A Green-Collar Job Strengthens Urban and Rural Communities

Urban and rural America have both been negatively impacted over the past decades by a failure to invest in their growth -- green-collar jobs provide an opportunity to reclaim these areas for the benefit of local residents. From new transit spending and energy audits in inner cities to windmills and biomass in our nation's heartland, green jobs mean a reinvestment in the communities hardest hit in recent decades.

And By the Way ... Green-Collar Jobs Save Planet Earth

This may be obvious. The "green" in green-collar is about preserving and enhancing environmental quality. Green-collar jobs are in the growing industries that are helping us kick the oil habit, curb greenhouse-gas emissions, eliminate toxins, and protect natural systems.

Green-collar workers are installing solar panels, retrofitting buildings to make them more efficient, constructing transit lines, refining waste oil into biodiesel, erecting wind farms, repairing hybrid cars, building green rooftops, planting trees, and so much more. And they are doing it today. There are already many green-collar jobs in America. But there could be so many more if we focus our economic strategies on growing a green economy.

Source: GreenForAll (www.greenforall.org)

White Paper on the Role of Business in Tomorrow's Society

"From Challenge to Opportunity: The role of business in tomorrow's society"

We are publishing this paper at a time of intense debate about the role of business in society, particularly in relation to major global issues such as poverty and climate change. Directions set in the next few years will have profound consequences for future generations, and in such a context, we believe business should be clear about its purpose and candid about its dilemmas...

In this paper we:

- Set out a model that we believe provides a constructive way for companies to see their role;
- Put forward what we believe to be the main issues with which companies should engage;

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- Ask some critical questions that companies and those they work with need to discuss and resolve.

Source: A paper from the Tomorrow's Leaders group of the World Business Council for Sustainable Development (www.wbcsd.org)

Download the 36 page white paper at www.wbcsd.org under Publications and Reports (Note: Requires Adobe Acrobat Reader, www.adobe.com)

The Eight Biggest Myths about Sustainability in Business

GreenBiz.Com article:

In our research, and in engagements with dozens of Fortune 1000 companies, we are sometimes surprised at the reluctance to pursue environmental sustainability initiatives, because of misconceptions about their cost or benefits. But we have also seen how some companies have embraced sustainability whole-heartedly, and are profiting from it.

As a way of helping to get every company on the journey to sustainability, here are some of the most common myths we have heard from otherwise successful companies. As surprising as some of these might sound -- like the idea that there is no money to be had from sustainability efforts -- these ideas persist in companies large and small and in any industry.

1. It's a cost and we can't afford it right now

Sustainability should be considered not just because it is the right thing to do, but also because it makes business sense. If an initiative cannot be justified from a strategic, financial, operational, marketing, or employee recruitment/retention perspective, don't do

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it. But we have found that in almost every corner of an organization there is a fundamental business reason for being more sustainable.

As Richard Goode, Director of Sustainability at [Alcatel-Lucent](#) told us recently, "In good times, sustainability can be a competitive differentiator, in lean times, it's a defensive strategy, and in really hard times, it can determine your survival." [Xerox](#) CEO Ann Mulcahey shares this view saying that being "a good corporate citizen" saved the company from bankruptcy. Refer to Myth #3 to see how companies have made money from their sustainability investments.

2. It requires lots of staff

A related myth is that sustainability efforts require a big centralized staff to drive and support. In fact, we have found the opposite to be true. At most of the leading companies we have researched, the sustainability team staff size ranged between one and four employees, even at companies as large as [AT&T](#).

The role of these groups is to work with the various functions across the organization and with senior executives, to develop a strategy, formulate goals, co-ordinate activities and report on progress. Many of the heads of sustainability we spoke with us told us that in the ideal world there wouldn't even be a need for such a group, as sustainability would be integrated into every facet of the company's operations and products. But until business reaches this ideal state, a small, centralized staff will continue to be necessary.

3. There's no money to be made from sustainability

Sustainability offers innovative firms opportunities for both top and bottom line benefits. New companies and brands have been created that are entirely green-focused, such as [Seventh Generation](#), [Clorox's GreenWorks](#), and [Motorola's Renew mobile phones](#).

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Not only are these brands bringing in millions in revenues, they are also enhancing the brand image of their parent companies. [P&G](#) has gone so far as to say that they will generate \$50 billion (yes, with a B) in cumulative sales from "sustainable innovation products" in a five-year period ending in 2012.

In addition, many companies have found they can resell used products and materials that were formerly considered waste. When Verizon focused on creating more sustainable operations, the company generated \$27 million by sorting out and selling recyclable materials from its waste stream, while also saving over a million dollars in waste removal costs.

Here are some additional examples:

- [Johnson & Johnson](#) has undertaken 80 sustainability projects since 2005 and achieved \$187 million in savings with an ROI of nearly 19 percent, and rising.
- [CocaCola](#) states that they generate a 20 percent IRR on their investments in energy savings initiatives.
- [Diversey](#), a leading B2B global provider of commercial cleaning and hygiene solutions states that for every \$1 they invested in 2008 they expect to recoup \$2 in 5 years.

4. It's just for big companies

From our experience working on sustainability with large and small companies, we can tell you without hesitation that the size of the company makes little difference. Leading sustainability companies we have studied are as small as [Numi Organic Tea](#) (revenues approaching \$15 million), and as large as [Hewlett-Packard](#) (revenues of \$110 billion). If anything, smaller companies have an advantage because their competitiveness often depends on being lean, resourceful, and nimble, which sustainability enables.

Ahmed Rahim, CEO of Numi Organic Tea tells us that every facet of the company's operations and choices in its products, and every employee at the company, has sustainability in mind in their work decisions and personal life. The company prides itself

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on using 100 percent biodegradable or recyclable packaging materials, and has won the WRAP award (Waste Reduction Award Program) 4 out of the last 5 years from the state of California. In fact, it was recognized as one of the top 5 companies in the state for the waste-reduction initiatives it takes in managing and operating its business. Sustainability is integrated in every decision made at NUMI.

Bonnie Nixon, Director of Environmental Sustainability at HP, says that her company's size has little to do with it being a leading sustainability company. From its early days, founders Hewlett and Packard were at the forefront of making HP think sustainably, and the idea has stayed with the organization over several decades.

Bigger companies do have an advantage when it comes to influencing their supply chain to be sustainable (Walmart and P&G are prime examples), and in influencing policy at the government level, but smaller companies can be just as effective, if not more so, at almost everything else.

5. It's mostly for B2C companies

We are constantly amazed when management teams tell us that because theirs is a B2B company, being sustainable somehow doesn't matter, since their customers are not "consumers." First, there are opportunities to have a direct impact on costs as discussed above. Danny Wong, Director of Sustainability at [Avery Dennison](#) (primarily a B2B company), told us that the energy savings alone justified their investments in sustainability, which was "a pleasant surprise".

But beyond that, who makes purchase decisions at companies? No points for the right answer. We are hearing from an increasing number of large B2B companies that their customers and prospects are asking about their sustainability efforts in RFPs. One B2B software firm goes so far as to put it explicitly in their purchase criteria that preference will be given to sustainable organizations.

Hyperlink E-Zines 2010

A major telecom manufacturer told us that in 2007, there were 50 RFPs (out of about 400) requesting information on the company's sustainability initiatives. In 2008 that number was 125, and in 2009, it is on track to be over 200! Many customers care whom they buy from, whether they are consumers or multi-billion-dollar corporations.

6. If we make claims about sustainability, we'll be accused of greenwashing

While there are some companies that can be rightly accused of greenwashing, we believe that for many others, the fear of being tarnished this way is greatly overblown.

Related News & Blogs

[The Twins' Target Field Scores as a Green Building All-Star](#)  [Buildings](#)

[Recycling Bins That Finally Look Better Than Their Contents](#)

[KFC Lands in Hot Water for its Packaging](#)

[Volvo Water and Energy Intensity Grows, but Total Use Falls](#)

[Timberland's Emissions Drop 36 Percent, Organic Cotton Use Jumps](#)

These companies are working diligently to improve their carbon impact, without a lot of fanfare. Companies that set meaningful goals, and achieve them, have every right to tout their successes.

But transparency becomes an important element in this process not just for achievements, but also for failures. There is nothing better for building the credibility of your success like admitting to your failures. And as the next item illustrates, partnering with NGOs can help build credibility about some of the claims.

7. NGOs are our adversaries

Many companies think of NGOs as adversaries, and are quite content if they are not approached by them. We believe this is a missed opportunity to benefit from their expertise in material sourcing, water treatment and a host of other issues. Organizations like [WWF](#) and [Conservation International](#) serve as partners to advance many leading

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companies' sustainability efforts.

Bonnie Nixon said that HP realized many years ago that an adversarial relationship was counterproductive and now partners with several NGOs.

Suzanne Apple, Vice President & Managing Director, Business and Industry at WWF told us that she welcomes the opportunity to work with business in a "win-win" mode, citing Coca-Cola as an example where WWF helps the company meet its water needs while conserving freshwater globally.

8. We don't have to worry about the supply chain because we don't make things

Some companies we have worked with claim that because they don't make things, they don't buy much, and hence don't have much of a carbon footprint. Or that their products don't consume much energy, so their Scope 3 environmental impacts are minimal.

[Walmart](#) is a prime example of a company that doesn't make things, yet is developing a supplier index for its tens of thousands of suppliers to measure the carbon impact from the things they sell to the company.

According to Matt Kistler, Senior Vice President of Sustainability at Walmart, 88 percent of the company's environmental footprint is in its supply chain, and only 12 percent is under its direct control. So if the company is going to achieve its goal of carbon neutrality, it is going to need to address most of its reductions in its supply chain.

Looking under the covers at a large software company, we found that it spends billions of dollars on its suppliers, on everything from computers to office supplies to utilities. This company aspires to be a leader in sustainability, yet has largely ignored the supply chain because it thinks it's not significant to their sustainability goals. We disagree. With their purchasing power, they have a tremendous opportunity to influence the supply chain and reduce their (indirect) environmental impact.

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** ** *

These are just some of the many myths that we have seen in the course of our work with companies large and small. As with these eight, there is plenty of evidence to dispel the other myths out there, but the final lesson is a simple one: Companies that choose to turn a blind eye to the benefits from becoming more sustainable are putting themselves at an immediate competitive disadvantage, and quite possibly set themselves up as targets for regulation in the long run.

Vijay Kanal, CMC, is Founder and Chief Consultant at [Kanal Consulting](#). He has over 20 years global experience as a corporate executive and consultant. In his current role, he is an advisor to senior management on strategy, marketing, and sustainability, in several industries. He welcomes your thoughts at vijay@kanalconsulting.com.

Source: GreenBiz.Com – Business Voice of the Green Economy (www.greenbiz.com)

Green Is Good: How Sustainability Grows Your Talent Image

Fran Durekas, Talent Management Magazine, December 2009

Going green is no longer a fad. Organizations that build sustainability into their daily operations are able to realize significant cost savings as well as improve their image in the marketplace.

Though practices vary greatly by level of incorporation and participation, formal support for sustainable or green policies has emerged as a growing trend as companies look to reduce costs, help support employees' interest, create a loyal workforce and attract new talent...

This article can be viewed/printed online at: www.talentmgt.com December 2009 Issue

Green Prosperity: How Clean-Energy Policies Can Fight Poverty and Raise Living Standards in the United States

Robert Pollin, Jeannette Wicks-Lim, and Heidi Garrett-Peltier from PERI

...investments in a clean energy economy can significantly drive down the unemployment rate and provide job opportunities to Americans across all skill and education levels. Through increased employment and lower energy bills and transportation costs, the standard of living for low-income people in particular would rise.

"Green Prosperity" focuses on job creation and the economic impact of clean-energy investments on lower-income families nationally, as well as in forty-one metropolitan statistical areas and Congressional Districts.

The report Executive Summary is provided in Appendix A. The full 49 page report can be downloaded at: <http://www.greenforall.org/resources/green-prosperity>

Source: Green For All (www.greenforall.org)

Resources to Share with Students

Green Education Resources

<http://www.mygreeneducation.com/>

World Business Council for Sustainable Development

www.wbcsd.org

The hyperlink e-zine January 2010: Issue II

Social Media in the Classroom

Quote:

"Technology is only technology to those who were born before it." - Unknown

Did You Know?

The Horizon Report identifies four trends as "key drivers" of learning technology from now until 2015. These trends include:

1. A transition from scarcity to abundance in both learning content and the ability to connect people and materials via the Web.
2. The expectations of anytime/anywhere learning opportunities.
3. The move away from a centrally managed and controlled IT infrastructure to cloud based (and consumer) learning and collaboration tools.
4. The emergence of a social learning paradigm that stresses collaboration and interdisciplinary work.

Source: Gazing at the Horizon, The Horizon Report,
<http://www.nmc.org/publications/2010-horizon-report>

Fast Facts

- 44% of students surveyed use the Internet 15 hours or less a week
- 58.9% use IM on a daily basis
- 69.3% visit social networking websites (MySpace, Facebook, etc.) on a daily basis.

Source: State University.Com;

<http://www.stateuniversity.com/blog/permalink/Technology-in-the-College-Classroom.html>

13 Enlightening Case Studies of Social Media in the Classroom

Social media is the thing right now. It provides a way to connect people of similar (or dissimilar) interests from around the world. Social media also provides networking tools for professionals and even for job hunters. And it offers a platform for friends and family to keep up with each other.

But social media isn't just for professionals, computer geeks and families who prefer not to send email; increasingly, social media is becoming a part of the classroom. It is possible to use social media in such a way as to enhance the learning environment, and to provide an education. Here are 13 case studies that show that social media does have a place in the classroom: [More](#)

Source: Best Online Universities, Edu-tastic

50 Ideas on using Twitter in Education

(Ten) First Steps

1. Build an account and immediate start using [Twitter Search](#) to listen for your name, the name of your school/college/poly/uni, and words that relate to your space. (Listening always comes first.)
2. Add a picture of yourself. People want to see you. What type of picture – up to you, there is a whole load of diversity out there on this.
3. Don't just tweet about yourself, talk to other people about their interests, too.

Hyperlink E-Zines 2010

4. Point out interesting things happening in your classroom (whatever form that takes).
5. Share links to neat things in your institution and/or community.
6. Don't get stuck in the apology loop. Be helpful instead.
7. Be wary of always promoting your stuff. Your fans (aka mother) will love it. But hopefully you are reaching out to others as well.
8. Promote your students' stories, but be careful to maintain anonymity, particularly with kids.
9. Be human.
10. Talk about non-education stuff too, there is life outside your institution. [More](#)

Source: Carol Cooper-Taylor's Eclectic musings on eTeaching and eLearning,
<http://cooper-taylor.com/blog/2008/08/50-ideas-on-using-twitter-for-education/>

NYC Helpline: How To: Incorporate Technology in the Classroom

Using flickr.com in the Classroom by Pamela AuCoin

1. Get a flickr account and create your own class page. Instruct students to get their own flickr accounts. Get your students' flickr email addresses, and send their invitations to join your site. I keep my page private, to keep outsiders away. Students will then get their own accounts, and accept the invitation.
2. Begin by uploading pictures on your flickr group page. Once you model this skill to the students, they usually catch on very quickly. Show them how to embed comments. Once they click to enlarge an image, they can click on the "add note" tab. Then write your sample comment. Model how to embed comments.
3. Give them specific guidelines for commenting. I tell them to brainstorm ideas in their groups first, so only the best ideas get embedded on the pictures. Once they've done this they can type them in. Some sample comments: "Red is the dominant color in the poster, which represents communism," or "Notice how the farm looks like a fairy tale. The bright colors make collectivism look utopian."

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4. Project sharing: I like to have different groups share their work. Students can view other group work and add comments in the box below. I like them to add their own ideas, if they think there are any key points that have been left out.
5. Connecting to the content: Students should relate their work to the content. They should understand that propaganda was a tool for the Bolsheviks to gain mass support and encourage them to keep fighting against the "evil" bourgeoisie.

[More](#)

Source: Pamela AuCoin <http://sites.google.com/site/educationtechlab/>

Teaching (with Twitter) Tuesday

November 24, 2009 ·

Bill Caraher, Department of History, University of North Dakota

Using social networking applications to increase student engagement is an interesting example of how technology as technology can engage students in new ways. My History 101: Western Civilization class this fall is relatively large (150 students) and meets once a week, at night, in a large theater style room. The basic content driven lectures are available online (here). The classroom time focuses on “primary source” texts (i.e. texts from Antiquity and the Middle Ages), recapping the major points in the content driven lecture, in-class writing assignments, testing various models for understanding the past, and informal question-and-answer sessions that focus, generally, on more difficult concepts. I playfully refer to the classroom time as a live concert environment and the podcast lectures as the studio album. [More](#)

Source: Teaching Thursdays, www.teachingthursday.org

Resources to Share with Students

[Examples of Using Social Media in the Classroom](#)

[25 Twitter Projects for the College Classroom](#)

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[Blogs in Education](#)

[Micro-blogging in education \(March 2009\)](#)

[Professors Experiment with Twitter as a Teaching Tool](#)

The hyperlink e-zine February 2010: Issue III – 2010 Mini-grants

BESAC 2010 Mini-grant Projects

Quote:

"All of life is education and everybody is a teacher and everybody is forever a pupil." – Abraham Maslow

Meet Our BESAC Conference Keynote Speakers

Brad Kemp is director of regional research at Beacon Economics. A well-known expert on California labor markets, Mr. Kemp has amassed singular expertise in the collection, reliability, and applicability of labor market statistics in the state. He specializes in working with clients to define their research questions and deliver customized analyses that meet individual needs. With a keen understanding of the state's regional diversity, he develops and authors Beacon Economics' Regional Intelligence Reports, customized research briefs that help local leaders understand the key components, trends, and emerging issues facing their regional economies. A sought after speaker, Mr. Kemp regularly presents on the economic conditions that affect local markets at conferences and meetings across the state. He explains complex economic concepts – including the events that have lead to the current downturn – in accessible and engaging language. He is a trusted media source and is widely quoted in major California dailies such as the Los Angeles Times and The Press Enterprise, and on radio and television across Southern California.

Prior to joining Beacon Economics, Mr. Kemp was a labor research analyst for the California Employment Development Department (EDD). During his years at EDD, he focused on the greater Los Angeles region, and was instrumental in helping leaders, workforce/economic development officials, and city planners use statistics to make better-informed choices and develop effective labor market strategies. He was responsible for releasing the monthly employment estimates and unemployment rate for

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Los Angeles County, and worked on special reports that detailed the effects of major events, such as the Southern California wildfires, on regional labor markets.

Mr. Kemp is a veteran who served with distinction for six years in the U.S. Navy, where he focused on electronics, computers, and weapons systems. He graduated at the top of his class in each of the Naval schools he attended, and developed discipline, leadership, and attention to detail while serving his country. He received his B.A. in Communication from the University of Delaware.

In our next issue, meet John Eagan, Past President of the Western Association of Food Chains, another keynote speaker at the BESAC 2010 Conference.

Mini-grant - Feather River College

Student Organization Leads GIS Community Asset Map Project – A roadmap to revitalization

Despite challenging economic times, Feather River College SIFE (Students In Free Enterprise) is optimistic that the rich and abundant resources of Plumas County combined with the ingenuity and steadfastness of our talented residents, we can emerge from this moment in history even more vibrant than ever. The first step to recovery is identifying our existing assets through a community asset map, which will provide the roadmap to capitalize on our strengths, identify gaps in our community, and link together appropriate community leaders to solve these challenges. Feather River College SIFE is already entrenched in the community through student-led service learning projects and has recently been awarded a grant to pursue this project.

The purpose of this project is to give students opportunities to interact with the business community and for Feather River College to serve as a community hub for referral to

Business/CIS Educators Statewide Advisory Committee

resources through two student-led activities, an entrepreneur networking event, and a community forum.

Source: Amy Schulz, MBA, Associate Faculty, SIFE Advisor, Feather River College, Quincy, CA

Mini-grant - Sierra College

Business Capstone Class and Culminating Experience

The project will underwrite the creation of a Sierra College capstone class for all business majors. U.S. and World Report in their 2000 Edition of America's Best Colleges highlighted seven "programs that are commonly linked to student success." The capstone class was identified as a "program to look for." The primary benefit of this course is improvement of student learning. The outcome of this project will be a culminating and reflective class that gives students a more in-depth and holistic study of business organizations, where students will be able to develop high level analytical and interpersonal skills essential to success in the global market place.

This course provides students the opportunity to integrate and apply knowledge acquired in their degree or certificate program to real world business problems. Students will work in cross-functional groups and utilize problem-solving principles and techniques to evaluate business case studies. The course will also explore employment and academic opportunities and give students the opportunity to further develop communication, teamwork, leadership, and analytical skills that are vital to career success. The curriculum includes guest speakers and field trips to business, nonprofit and/or governmental organizations. This is a capstone course and is generally taken in the final semester or two of study at Sierra College.

Source: Sonja B. Lolland, Sierra College

Mini-grant - Cabrillo College

CIS Capstone Class

Cabrillo College has been awarded a grant to develop and conduct a CIS Capstone Course in the spring 2010 semester.

The goal of this Capstone Course is to bring together the study of multiple disciplines through a hands-on, collaborative real-world project. Students participating in the class will have experience with, or have completed courses covering, the following technologies-

Microsoft Windows Server and Client operating systems

Cisco routers and switches

UNIX/Linux operating systems

Network security devices, software, and configuration management

Students will be provided a real-world business enterprise scenario. They will work in teams to design, configure, document and demonstrate a working IT environment that implements and integrates a variety of topologies, configurations and challenges.

Students will use network modeling and simulation tools to build working configurations that will be installed on routers, switches, and firewalls. Students will configure Windows Server and Windows Client operating systems on virtual machines.

Students will be evaluated based on numerous deliverables required during the course as well as a final evaluation consisting of a short oral presentation describing their project solution as well as a troubleshooting session.

Our class website can be found at -

http://www.cabrillo.edu/~grollinson/capstone-10/capstone_web_outline-10a.html

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Source: Gary Rollinson, Instructor - CIS Department - Cabrillo College

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The hyperlink e-zine March 2010: Issue IV – 2010 Mini-grants

BESAC 2010 Mini-grant Projects

Quote:

"Whenever you see a successful business, someone once made a courageous decision" -
Peter Drucker

Meet Our BESAC Conference Keynote Speakers

In this volume meet **John Eagan** one of our keynote speakers at this year's 2010 BESAC Conference in Costa Mesa. Mr. Eagan is the Past President of the Western Association of Food Chains.

John Eagan started his grocery career in 1961 at Safeway in San Diego. In 1962 he move to FedMart, while continuing his education. At FedMart he spent the next 20 years in various positions including store manager, district manager, warehouse general merchandise manager, and buying in various foods and non-foods departments.

In 1982 he left FedMart and joined Price Club.

He joined Price Savers in 1983 as a founding General Merchandise Manager. There he was responsible for sundries, tobacco, candy, clothing, domestics, office supplies and foods.

In 1985 he joined Costco Wholesale as a General Merchandise Manager. He moved to British Columbia to help establish Costco in Canada. He worked there 2 years before returning to Southern California to set up a regional office.

He established the LA Regional office in 1987. Starting with two warehouses, Bakersfield and Las Vegas, he opened 18 additional warehouses over the next 5 years. In 1993 when Costco and Price Club merged, John relocated to Washington to help facilitate the integration of the various food buying groups of the merged company.

Business/CIS Educators Statewide Advisory Committee

In Washington he set up the lines of communications between buying departments, set up department teams, started the Foods private label program and started national buying.

In 1996 he returned to the LA Region where he continues to lead the foods buying as Vice President and Senior General Merchandise Manager. The region has grown to 56 warehouses with annual sales of close to \$11.0 billion.

He has served on the Board of the California Grocers Association as a Board member and as Chairman. He is currently serving as Past President of the Western Association of Food Chains.

He has been married to Chryl for 45 years. They have four grown children and eight grandchildren. They both enjoy the family and traveling. He enjoys skydiving, she doesn't.

Mini-grant - Hartley & Associates

Two training videos on business soft skills

Hartley and Associates will deliver two new business soft skills videos in 2010 making a total of eleven videos that have been delivered over the last three years to the California Community Colleges through the BESAC organization. This year's deliverables include:

“Student Guide to the Business World”

This 30-35 minute video will address the problems a typical student experiences when starting out in the business world.

College life and the business world are light years apart and sometimes the transition can be difficult. Many students do not know what to expect from their first job and this video will provide them with the knowledge they need to succeed in the workplace. The video

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features interviews with college graduates who have been in business for a year or two and asks them to identify their toughest transition problems. The virtual mentor then provides suggestions on how to solve these problems. The video also answers other timely questions and provides information on what a new employee can expect on their first day and during their first week.

This video features an opening, lessons broken down into small chapters, case studies, a review and quiz, and a summary. Deliverables include a DVD of the video, a Flash version for posting on the BESAC web site, a Student Study Guide and an Instructor Study guide.

And, **“Finding A Job”**

This 20-25 minute video addresses the six primary methods to finding a job in the current economy.

Getting a job today can be difficult. Looking for a job IS a job in itself. This video presents six primary methods to finding a job in the current economy. After reviewing these six methods, the video also offers information on the negotiating process and job offer letters.

This video features an opening, lessons broken down into small chapters, case studies, a review and quiz, and a summary. Deliverables include a DVD of the video, a Flash version for posting on the BESAC web site, a Student Study Guide and an Instructor Study guide.

Source: Hartley and Associates, www.hartleyandassociates.com.

Business/CIS Educators Statewide Advisory Committee

Mini-grant - Los Angeles Valley College

Los Angeles Valley College was awarded a mini-grant to train faculty to use social media in their face-to-face and online courses. Grant writer and director Michael Cooperman said "...social media is changing the way we communicate, receive news, information and entertainment. Students are connected through social media on their computers, laptops, mobile phones, and game systems. They use these networks throughout the day to check for updates from their friends, to post messages, visit links to news stories, locate employment, research products and services, and to search for information.

Additionally, businesses and organizations are using these very same tools to communicate, promote their goods and services and to conduct customer service. However, there generally seems to be a lack of understanding by educators for how these tools function, are used by businesses and organizations, and can be used within the context of education.”

This project is designed to train faculty to learn to use available social networking sites to enhance their face-to-face and online courses for the purpose of improving student success and retention.

Training is being designed and delivered by Valley College faculty members Michael Cooperman and Jim Marteny through a variety of ways, including:

- traditional face-to-face instruction
- web based video conferencing
- web based videos

We are very happy to have the opportunity to implement this project at Valley College, and we are looking forward to its success.

Please visit the following site to review more information about this project:

<http://www.lavc.edu/social/>

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Source: Michael Cooperman, Instructional Designer
Los Angeles Valley College

Mini-grant - Mt. San Jacinto College

This Spring, Business and CIS Faculty at Mt. San Jacinto College are asking the question – “How interested are MSJC students in receiving course related updates and announcements via text messaging?” It is a question Dwight Duffie, long time CIS faculty member has pondered as he has watched text messaging move from isolated use by a few students to the tidal wave of text messaging that we see today.

To answer this question, the Business and CIS Departments proposed in a formal BESAC Mini-Grant application a methodology to address mobile communication implementation issues and best practices in adapting mobile communication technology for instructional use.

Caren Hennessy, MSJC Business faculty member and BESAC grant co-coordinator states that the premise of the approved grant proposal is to combine a data driven approach to understanding student use of mobile communication technology with an actual pilot that allows faculty to gain some experience in utilizing mobile technology as an instructional tool.

With the initial data collection and student surveys nearly complete, the four participating Business and CIS faculty members are transitioning their efforts to the implementation phase of the project. For the implementation phase, eight course sections have been selected. These sections include both online and face-to-face sections, and range from highly technical CIS courses such as Computer Programming, to Business courses such as Computer Applications and Accounting. In the implementation phase of the pilot, students will voluntarily sign-up to receive course related messages and updates via text message. Dwight Duffie states, “We have a technical strategy on how we think we can

Business/CIS Educators Statewide Advisory Committee

best address the mechanics of sending text messages to multiple students. Already we can tell that face-to-face and online sections pose very different challenges and opportunities.” Caren Hennessy concluded by stating, “Whatever the outcome, one thing is clear from the initial survey data - students are absolutely interested and receptive to the notion of receiving course related messages and mobile formatted course content via mobile devices.”

Grant Team members Caren Hennessy, Glenn Stevenson, Gloria Sanchez and Dwight Duffie will present their findings at the upcoming BESAC Conference in Costa Mesa.

Hyperlink E-Zines 2010

The hyperlink e-zine March 2010: Issue V – 2010 Mini-grants

BESAC 2010 Mini-grant Projects

Quote:

I have found no greater satisfaction than achieving success through honest dealing and strict adherence to the view that, for you to gain, those you deal with should gain as well.

- Alan Greenspan

Meet Our BESAC Conference Keynote Speakers

Seth Ellison joined Alternative Apparel in 2009 as Executive Vice President of Global Sales and Merchandising. Seth has 20 years of industry experience with an extensive background of product merchandising, domestic and international sales, brand management, and new business development.

He most recently worked as President of Perry Ellis Swimwear after a ten-year career with Nike. During that time, he served as President of Nike subsidiary Hurley International, after serving as Vice President and General Manager of Nike Apparel in the EMEA region. Prior to joining the Nike organization, Seth served as Vice President of Design and Merchandising at Quicksilver.

Mini-grant - LA Valley College

LAVC Work Experience Program

For this project, we wanted to work closely with students who are majoring in Business and are economically disadvantaged. We recruited and selected students based on their eligibility in the TANF Welfare to Work program, fulltime student status with 2.0 GPA, and willingness to participate in an extensive work experience component. This grant

Business/CIS Educators Statewide Advisory Committee

couldn't have come at a better time because the CalWORKs work-study program was lacking in the employer contribution portion of the work-experience grant. (CalWORKs Work-Study consists of 75% of students' salary paid by CalWORKs, 25% paid by Employer/Department). Due to District wide budget cuts and overall economic crisis, the employers were **not** able to provide their portion. This is where the Mini-grant comes in. We were able to supplement the employers' portion with funding from the mini grant. We are also able to provide a comprehensive work experience program for our Business majors. The students were orientated and given vocational assessments, interviews, vocational/career guidance counseling, job placement, informative workshops, and ongoing coaching. The students are able to use skills obtained from this training in collaboration with their education to develop professionalism in their career goals. Not to mention that the employers/departments also get professionally trained employees at no cost to them, therefore, not affecting their budget. In total, we **placed** 8 students on-campus in various departments and 1 student off-campus in an Accounting firm. We are very hopeful that these students will benefit from this training and continue in the Business field after receiving their degrees and certificates.

Source: Los Angeles Valley College, CalWORKs,
www.lavc.edu/calworks/

Mini-grant - College of the Canyons

Project-Based Learning Program

Implement a Project-Based Learning Program at the College of the Canyons (COC) through a three-phase process. Phase one will create a one-stop web-based clearinghouse of text and graphics in Spring 2010. Phase two will create the independent Project-Based Learning aspect of this program, which will entail the creation of short-term, real-world projects for qualified COC students beginning in Fall 2010. Phase three will involve the implementation of the classroom-based Project Group Learning beginning in Spring 2011.

Hyperlink E-Zines 2010

Thus far, the Project-Based Learning Committee at College of the Canyons has designed a web site, worked with the Architecture and Interior Design department's advisory committee made up of community-based businesses and practitioners, and developed promotional materials to recruit interested faculty, students, and business people. We are scheduled to promote our program at a fall flex workshop, "Introducing Project-Based Learning." And our risk management documents have been finalized. We are monitoring a pilot project with a student and the Sign Language department.

Source: Dr. Jennifer Hauss, College of the Canyons

Mini-grant - Golden West College

Intermediate Accounting

The project will support/reinforce the Certificate of Specialization in Accounting by providing faculty training in intermediate accounting together with the use of the Financial Account Research Database System (FARS). Curriculum will be expanded to include one new elective course.

Source: BESAC mini-grant awards project

The hyperlink e-zine April 2010: Issue VI

Cloud Computing

Quote:

"Cloud computing will be as influential as e-business." (Source: [Gartner](#))

What is Cloud Computing?

Cloud computing is a general term for anything that involves delivering hosted services over the Internet. These services are broadly divided into three categories: Infrastructure-as-a-Service ([IaaS](#)), Platform-as-a-Service ([PaaS](#)) and Software-as-a-Service ([SaaS](#)). The name cloud computing was inspired by the cloud symbol that's often used to represent the Internet in [flowcharts](#) and diagrams.

A cloud service has three distinct characteristics that differentiate it from traditional hosting. It is sold on demand, typically by the minute or the hour; it is elastic -- a user can have as much or as little of a service as they want at any given time; and the service is fully managed by the provider (the consumer needs nothing but a personal computer and Internet access). Significant innovations in virtualization and distributed computing, as well as improved access to high-speed Internet and a weak economy, have accelerated interest in cloud computing.

Source: [Whatis.com](#)

Key Features of Cloud Computing

- [Agility](#) improves with users' ability to rapidly and inexpensively re-provision technological infrastructure resources.^[26]
- [Cost](#) is claimed to be greatly reduced and [capital expenditure](#) is converted to [operational expenditure](#)^[27]. This ostensibly lowers [barriers to entry](#), as infrastructure is typically provided by a third-party and does not need to be purchased for one-time or infrequent intensive computing tasks. Pricing on a

Hyperlink E-Zines 2010

- [utility computing](#) basis is fine-grained with usage-based options and fewer IT skills are required for implementation (in-house).^[28]
- **[Device and location independence](#)**^[29] enable users to access systems using a web browser regardless of their location or what device they are using (e.g., PC, mobile). As infrastructure is off-site (typically provided by a third-party) and accessed via the Internet, users can connect from anywhere.^[28]
 - **[Multi-tenancy](#)** enables sharing of resources and costs across a large pool of users thus allowing for:
 - **Centralization** of infrastructure in locations with lower costs (such as real estate, electricity, etc.)
 - **Peak-load capacity** increases (users need not engineer for highest possible load-levels)
 - **Utilization and efficiency** improvements for systems that are often only 10–20% utilized.^[22]
 - **[Reliability](#)** improves through the use of multiple redundant sites, which makes cloud computing suitable for [business continuity](#) and [disaster recovery](#).^[30] Nonetheless, many major cloud computing services have suffered outages, and IT and business managers can at times do little when they are affected.^{[31][32]}
 - **[Scalability](#)** via dynamic ("on-demand") [provisioning](#) of resources on a fine-grained, self-service basis near real-time, without users having to engineer for peak loads. [Performance](#) is monitored, and consistent and loosely coupled architectures are constructed using [web services](#) as the system interface.^[28] One of the most important new methods for overcoming performance bottlenecks for a large class of applications is data parallel programming on a distributed data grid.^[33]
 - **[Security](#)** could improve due to centralization of data^[34], increased security-focused resources, etc., but concerns can persist about loss of control over certain sensitive data, and the lack of security for stored kernels^[35]. Security is often as good as or better than under traditional systems, in part because providers are able to devote resources to solving security issues that many customers cannot afford.^[36] Providers typically log accesses, but accessing the [audit logs](#) themselves

Business/CIS Educators Statewide Advisory Committee

can be difficult or impossible. Furthermore, the complexity of security is greatly increased when data is distributed over a wider area and / or number of devices.

- **Maintenance** cloud computing applications are easier to maintain, since they don't have to be installed on each user's computer. They are easier to support and to improve since the changes reach the clients instantly.
- **Metering** cloud computing resources usage should be measurable and should be metered per client and application on daily, weekly, monthly, and annual basis. This will enable clients on choosing the vendor cloud on cost and reliability (QoS).

Source: Wikipedia.com

Google: 10 ways the cloud is good for business

By: Rafe Needleman / CNET

Matthew Glotzbach from Google's enterprise products group [took the stage at the Office 2.0 conference](#) with a talk called, "10 Things I could do in the cloud today that I couldn't do a year ago."

10. Everything on the go. Glotzbach showed a picture of the [iPhone](#), and talked about how smartphones let us do "almost anything" from the mobile phone. Of course, Glotzbach's online life is "almost entirely in the cloud," since he's a Googlehead, but he's right. Smartphones with access to tools like Google Docs are workable backups to full-sized computers.

9. Search through all my e-mail. I take issue with this claim, since I, like many other corporate e-mail users, are slaves to Exchange, and while I can occasionally get a search to run on my PC's archive of mail when I'm looking for something, I don't have access to that data when I really need it: on my iPhone.

Glotzbach also talked about how IMAP (Internet Mail Access Protocol) opens up e-mail access to other interfaces, like Web-based and mobile clients.

Hyperlink E-Zines 2010

8. Chat with customers and partners in any language. The real-time translation service in Google Talk has make collaborations possible that weren't before. Good point. Glotzbach did a demo on stage, showing how one invites a translator bot into a chat and uses that connection to talk with a person who speaks another language.

"It's a service you can mash up with," Glotzbach said. So "Why don't you have this in Zimbra or Google Docs?" he challenged.

7. Collaborate simply and securely on projects with Sites and Docs . It's one place for him to go to create and store project info, and it can be easily opened up to partners and other stakeholders (like journalists or the public) when needed. It helps "streamline the communication flow," he said. In this case I agree: I'm using Google Docs now for collaborating on documents inside the CNET workgroup, and when I need to share files outside of our walls, it's just as simple.

6. Organize all my business travel with e-mail. This was Glotzbach's paean to Tripit, which is a pretty cool service I also recommend. It's cool, he says, because it uses a communication method we already have, e-mail, to make things simpler for everyone. One wonders if Tripit might find itself in the Google stable at some point soon.

5. Easily collect data from co-workers and customers in forms. Google recently added a forms collection tool to Google Spreadsheets. [It's a good feature.](#) Glotzbach demonstrated how easy it is to embed a form in a blog.

4. Build any scalable business application on the cloud platform. "Everybody's got really good ideas," Glotzbach says, but they don't have the capital or skills "to operate a large-scale computing environment." But with cloud services from Google, Amazon, Salesforce, and the like, more companies can build scalable businesses with far fewer resources. Glotzbach says that these platforms are also useful for building mobile apps.

3. Use online templates for documents, spreadsheets, and presentations. OK. Not exactly a new feature, since nearly all productivity software has this capability, too.

Business/CIS Educators Statewide Advisory Committee

2. Run fast, secure, and stable Web applications. "Chrome was really a leap forward," in terms of speed, stability, and so on, Glotzbach says. "Anyone not seen or used it yet?" At which point all the [Mac](#) users in the audience raised their hands. Basically this bullet point was just a quick demo of the browser Google just announced. Glotzbach reinforced how important the browser's speed improvements are for the development of Web apps for everyone.

1. Securely share video in Apps. Really, this is No. 1? In fairness, it's a nice feature, and [the launch of it](#) was overshadowed by the Chrome launch, but I was rather hoping Glotzbach had a more rousing No. 1 point here.

Glotzbach closed by talking about how adoption of Google's business suite, Apps, is taking off. There's a hockey stick chart of growth, he said, and it's actual use, not just sign-ups. He also said 3,000 new businesses sign up for Google's Apps every day.

Source: http://news.cnet.com/8301-17939_109-10032785-2.html. Rafe Needleman writes about start-ups, new technologies, and Web 2.0 products, as editor of CNET's Webware. [E-mail Rafe](#).

Cloud Computing – What's it good for?

By: Steve Longenecker – Community IT Innovators (CITI)

One of my roles at CITI is to conduct audits of our clients' IT infrastructure. This process is a requirement for the intake of new clients as it provides us the opportunity to assess needs and make recommendations for a network that is initially unfamiliar to us. Clients who are already receiving CITI infrastructure support also sometimes request the service. It provides an overview of network health and network effectiveness that does not necessarily emerge in day to day operations. It's a little like wanting a physical from your doctor even though you've already seen her plenty for coughs and aches. The tech audit can frequently uncover an underlying issue that may not have been immediately apparent, or help identify potential efficiency gains.

Hyperlink E-Zines 2010

One recommendation I've been making in these network audits recently regards **shifting services from local servers to hosted solutions**. Moving services to the "cloud" gets a lot of IT media hype these days, but it really does make sense for a number of our clients, for some of their services.

- One example is **email services**. It's true that the software licenses required to set up an Exchange server are almost free through [TechSoup](#) pricing, but the cost of owning and operating an Exchange server is not incidental nor is the cost of paying CITI or another IT provider to set one up. For smaller organizations, paying a per person monthly fee for similar service hosted on the Internet is often less expensive.
- Moving **organization file sharing** to the cloud is a less common recommendation, but one that we consider more and more. A hosted file sharing system often increases remote accessibility and generally comes with functionality not included in a standard local Windows file share (such as versioning and edit tracking).
- While somewhat outside the scope of an infrastructure audit, another frequent recommendation is to consider moving **specific application needs** to hosted solutions, whether it's a CRM database or a corporate Intranet.

The cloud works because the resources supporting it have an economy of scale (shared among many users) with which local services often can't compete. And the high levels of bandwidth available today allow hosted services to have a performance comparable to that of their local versions. It's not a solution for all situations and we still believe in installing local servers, but cloud computing is often a compelling option we want our clients to explore.

Source: <http://www.citidc.com/blog/?p=545>

Resources to share with students

What cloud computing really means - <http://www.infoworld.com/d/cloud-computing/what-cloud-computing-really-means-031>

Cloud versus cloud: A guided tour of Amazon,Google,,AppNexus, and GoGrid - <http://www.infoworld.com/d/cloud-computing/cloud-versus-cloud-guided-tour-amazon-google-appnexus-and-gogrid-122>

Gartner: Seven cloud-computing security risks - <http://www.infoworld.com/d/security-central/gartner-seven-cloud-computing-security-risks-853>

The Good Things about Cloud Computing - <http://www.serverschool.com/cloud-computing/the-good-things-about-cloud-computing/>

Appendix A:

Green Prosperity – Executive Summary



GREEN PROSPERITY: How Clean-Energy Policies Can Fight Poverty and Raise Living Standards in the United States



**Robert Pollin
Jeannette Wicks-Lim
& Heidi Garrett-Peltier**

**Department of Economics and
Political Economy Research Institute
University of Massachusetts, Amherst**

**Prepared under commission from the
Natural Resources Defense Council
& Green For All**

June 2009



EXECUTIVE SUMMARY

GREEN PROSPERITY

How Clean-Energy Policies Can Fight Poverty and Raise Living Standards in the United States

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& Heidi Garrett-Peltier

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Political Economy Research Institute (PERI) ,
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Full report available at:
www.peri.umass.edu/green_prosperity

EXECUTIVE SUMMARY

The United States today faces a formidable generation-long challenge: to transform the economy from being driven primarily by fossil fuel sources of energy, which are the major cause of global climate change, to becoming an economy that can function effectively through renewable energy sources and by achieving high levels of energy efficiency.

The project of building a clean-energy economy will become a powerful engine of expanding employment opportunities throughout the U.S. economy. According to a study that PERI recently completed with the Center for American Progress (CAP),¹ clean-energy investments at the level of about \$150 billion per year—i.e. around one percent of U.S. GDP—can generate about 1.7 million net new jobs throughout the U.S. economy.

This level of annual new clean-energy investments in the U.S. will be strongly encouraged through the combination of direct government spending, along with the subsidies and incentives for private business investors that would result from the American Recovery and Reinvestment Act (the February 2009 Obama stimulus program) and the American Clean Energy and Security Act (ACESA—the Waxman-Markey bill) now being debated in Congress. Within this strongly supportive policy framework, the advance of clean-energy technologies will accelerate and markets supporting these technologies will mature. This will create a self-reinforcing dynamic of rising private-sector clean-energy investment opportunities, which in turn will mean expanding job opportunities.

The building of a clean-energy economy in the United States can also serve another purpose: to create new ‘pathways out of poverty’ for the 78 million people in this country (roughly 25 percent of the population) who are presently poor or near-poor, and raise living standards more generally for low-income

people in the United States. How the project of building a clean-energy economy can benefit low-income people in the U.S. is the focus of this study.

In the discussions that follow, we examine how investments in clean energy—including energy efficiency measures such as residential and commercial building retrofits, public transportation and a smart grid electrical transmission system, along with renewable energy sources such as wind, solar, and biomass power—create major new employment opportunities in comparison with spending equivalent amounts of money within the traditional fossil fuel sectors, i.e. oil, natural gas and coal. We then assess the impact on low-income families of seeing their household energy bills go down as a result of investments in energy efficiency retrofits. We finally also consider how investments in improving public transportation systems can reduce transportation costs for low-income families.

Clean-Energy Investments Create Job Opportunities

In general, our findings show that clean-energy investments create more job opportunities than spending on fossil fuels, across all levels of skill and education. The largest benefits will accrue to workers with relatively low educational credentials.

We further find that a high proportion of the jobs generated by clean-energy investments should offer good opportunities for advancement through training programs, and more generally, that newly employed low-income workers will see new opportunities to lift themselves and their families out of poverty.

Considering a \$150 billion annual level of clean-energy investments in the U.S. economy, some of our major specific findings include the following:

EXPANDING EMPLOYMENT OPPORTUNITIES FOR LOWER-INCOME WORKING PEOPLE

- Out of the 1.7 million net increase in job creation, roughly 870,000 of the newly available jobs would be accessible to workers with high school degrees or less.

¹ Pollin, Robert, James Heintz, and Heidi Garrett-Peltier. 2009. “The Economic Benefits of Investing in Clean Energy: How the economic stimulus program and new legislation will boost U.S. economic growth and employment” Washington, DC: Center for American Progress.

- Roughly 614,000 of the newly expanded number of jobs available for workers with high school degrees or less will offer decent opportunities for promotions and rising wages over time. The job creation within this category is seven times larger than the number of jobs that would be created in this category by spending the same amount of money within the fossil fuel industry.
 - To maximize opportunities for decent job opportunities, clean-energy investment policies need to operate in tandem with high-quality and widely-accessible training programs; minimum wage laws that set a 'living wage' standard throughout the country; and a more favorable environment for union organizing among low-wage workers.
 - The net increase of 1.7 million jobs will generate roughly a one percentage point fall in the unemployment rate. This in turn should raise earnings for low-income workers by about 2 percent.

MORE JOBS ACROSS ALL EDUCATIONAL LEVELS

- 3.2 times more jobs overall than fossil-fuel investments
- 3.6 times more jobs requiring high school degrees or less
- 2.6 times more jobs requiring college degrees or more
- 3.0 times more jobs requiring some college

ENERGY EFFICIENCY RETROFITS LOWER HOME HEATING AND UTILITY BILLS

- Retrofits could reduce living costs by an average of 3-4 percent for low-income households.
- Achieving these benefits will require well-designed policies to expand the market for retrofits.
- The markets to provide retrofitting services must be targeted to benefit low-income renters as well as homeowners.

IMPROVING PUBLIC TRANSIT REDUCES TRANSPORTATION EXPENSES

- Improving public transportation in urban centers to about 25–50 percent of total transportation could lower costs and raise living standards for low-income households by an average of 1–4 percent.
- The largest benefits will accrue to households that can replace a car with public transit.
- These households would see their annual transportation expenditures fall by roughly \$2,000.
- This would represent a reduction in total expenditures for these families of about 10 percent.

These findings are particularly significant in the context of the current energy debate because they turn upside-down a common objection from opponents of clean-energy policies: that environmental policies will be harmful for the poor. We show that, to the contrary, with effective policies in place, investing in clean energy can provide significant new opportunities at all levels of the U.S. economy, and especially for families who are poor or near-poor.

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