

Topics

- What are green businesses and jobs?
- Why, what, & how businesses green
- Where the green jobs are
- Tools for creating green businesses and jobs

What is a green business/job?

- Green Businesses & Jobs
 - Supply needed goods and services
 - Benefit the environment, society, and economy
 - Rule of thumb: A business is not truly sustainable as long as it uses more resources (e.g., ecological, financial, social) than it gives back
 - Green businesses and jobs go hand in hand
 - Greener businesses create greener jobs

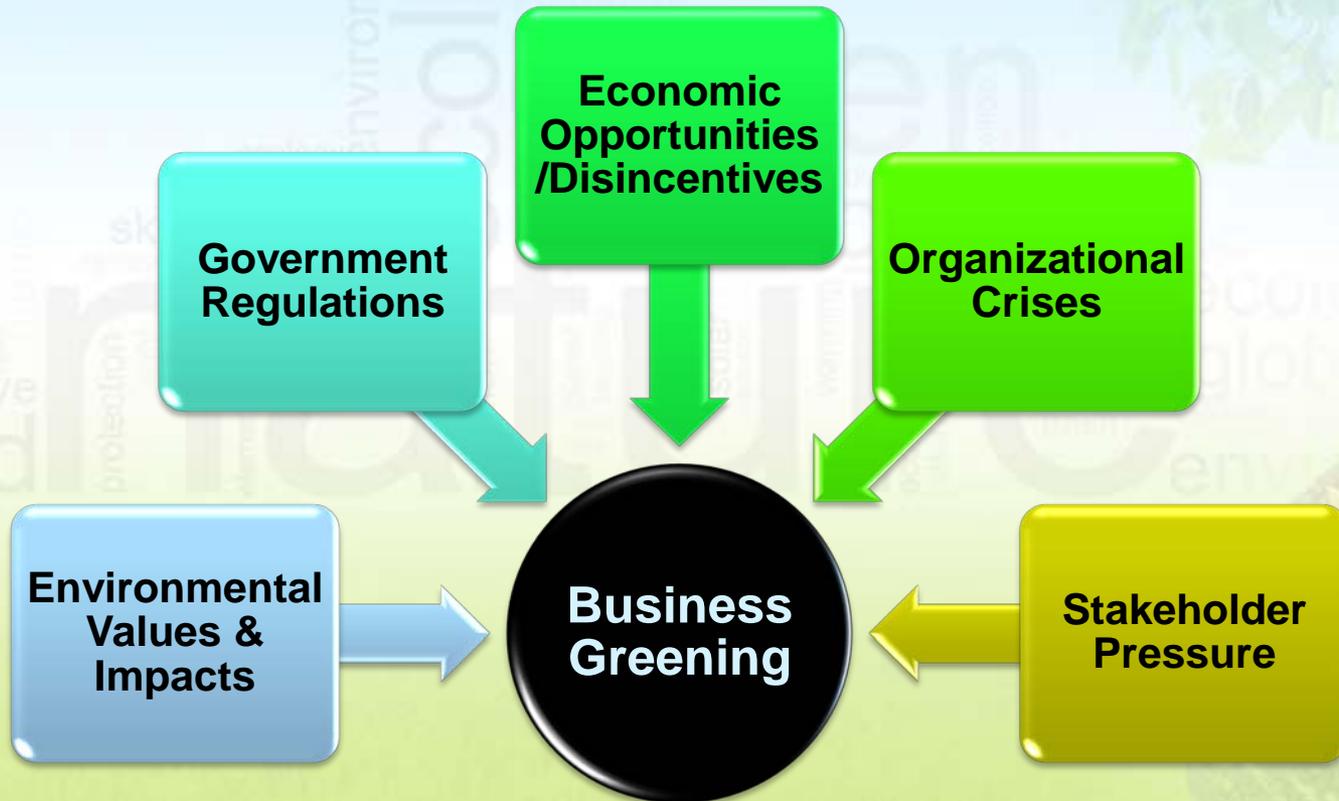
Green Business Basics

WHY, WHAT, & HOW COMPANIES GREEN



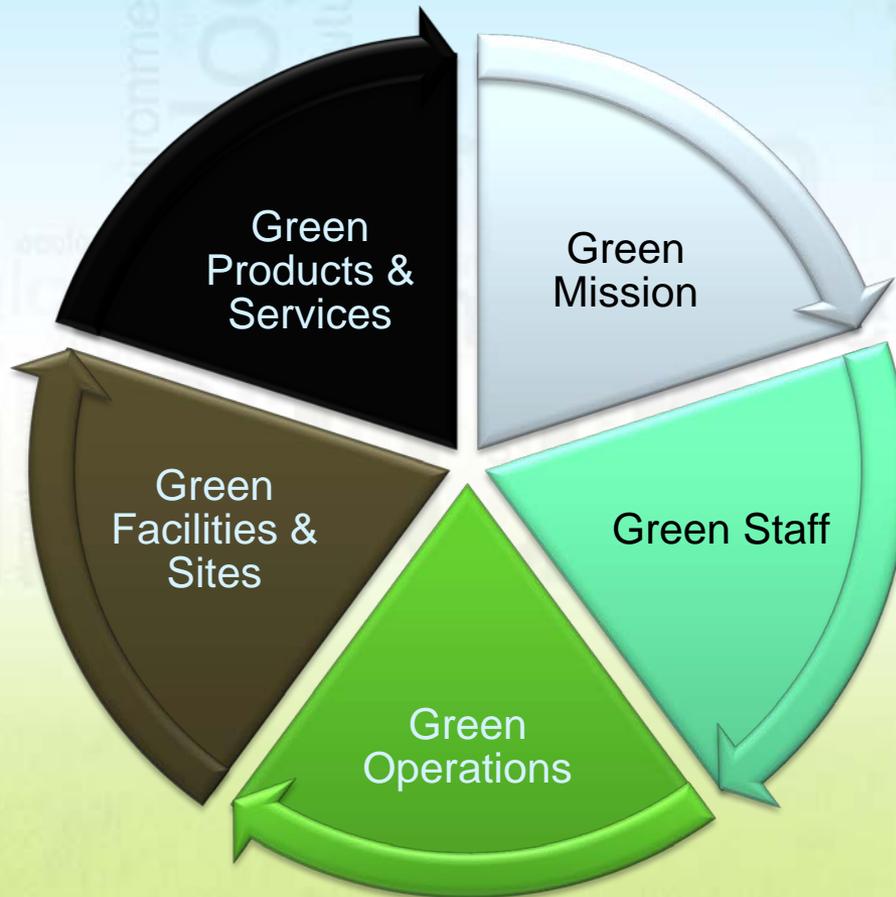
Why Companies Green

- Companies become greener for 1 or more of 5 reasons



What Companies Green

- Companies green 1 or more of 5 areas



How Companies Green

- Four main types of activities associated with greening a business
 - **Principles:** Sustainability-related values that guide a company's actions
 - **Methods:** Used to assess or improve a company's environmental performance
 - Assessment methods (e.g., building audit)
 - Improvement methods (e.g., weatherization)
 - **Certification programs:** Provide third-party verification that a product, facility, or company has greener features (e.g., ISO 14000)
 - **Sustainability reporting:** Communicates a company's sustainability goals and/or progress (e.g., Global Reporting Initiative)
- These are called *green business best practices*.





Green Jobs Growth by Industry & Location

WHERE THE GREEN JOBS ARE

Green Jobs – Then and Now

- 2003-2010 (pre-stimulus): The U.S. economy added 500,000 new green jobs.
- Now (post-stimulus): ~2.7M green jobs in U.S. (Brookings Institution)
 - Sector with greatest growth: green energy
 - ~1-1.5M new jobs from stimulus funding

Industry Sectors

- Green jobs found in many industry sectors
 - Air and climate
 - Buildings
 - Energy
 - Food
 - Health
 - Infrastructure
 - Land
 - Security
 - Textiles
 - Transportation
 - Waste
 - Water

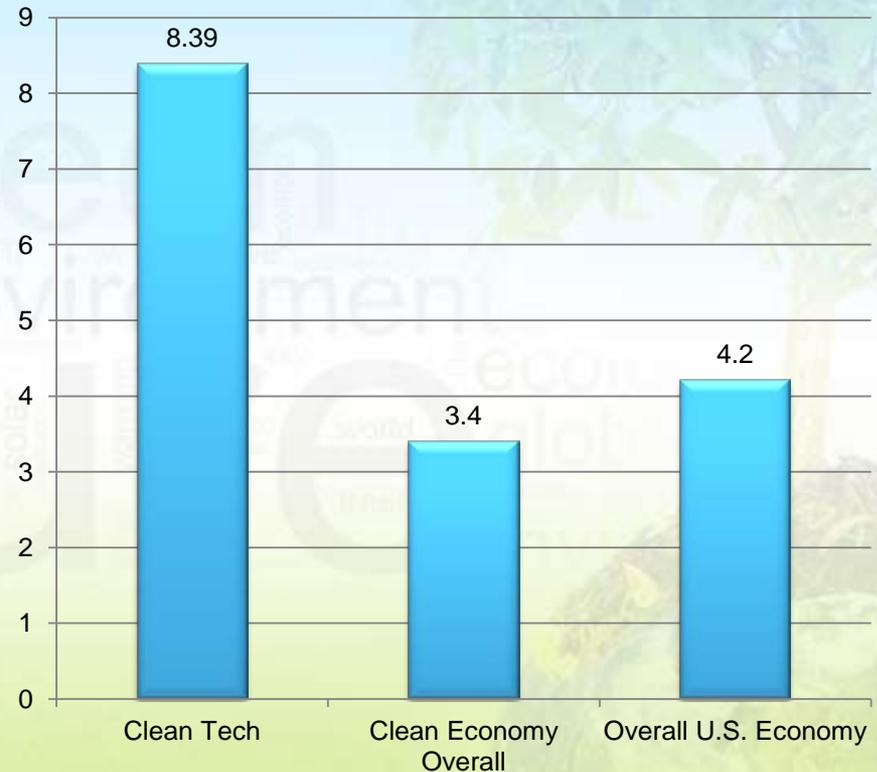
Green Jobs by Sector, 2010

Category	Economic Segment	Jobs, 2010	
Agricultural and natural resources conservation	Conservation	314,983	
	Organic food and farming	129,956	
	Sustainable forestry products	61,054	
Education and compliance	Regulation and compliance	141,890	
	Training	266	
Energy and resource efficiency	Public mass transit	350,547	
	Energy-saving building materials	161,896	
	HVAC and building control systems	73,600	
	Green architecture and construction services	56,190	
	Professional energy services	49,863	
	Appliances	36,608	
	Energy-saving consumer products	19,210	
	Battery technologies	16,129	
	Smart grid	15,987	
	Electric vehicle technologies	15,711	
	Lighting	14,298	
	Water-efficient products	13,066	
	Fuel cells	7,041	
	Greenhouse gas reduction, environmental management, and recycling	Waste management and treatment	386,116
		Professional environmental services	141,046
Recycling and reuse		129,252	
Green consumer products		77,264	
Green building materials		76,577	
Nuclear energy		74,749	
Recycled-content products		59,712	
Remediation		56,241	
Air and water purification technologies		24,930	
Green chemical products		22,622	
Pollution reduction		9,986	
Carbon storage and management		391	
Renewable energy		Hydropower	55,467
	Wind	24,294	
	Solar photovoltaic	24,152	
	Biofuels/biomass	20,680	
	Solar thermal	5,379	
	Waste to energy	3,320	
	Geothermal	2,720	
	Renewable energy services	1,981	
Wave/ocean power	371		

Green Jobs Often Pay Well

- Median wage in overall green economy: \$44,000
- Median wage in overall U.S. economy: \$33,190
- Clean economy provided better earnings for lower skilled workers than U.S. economy did

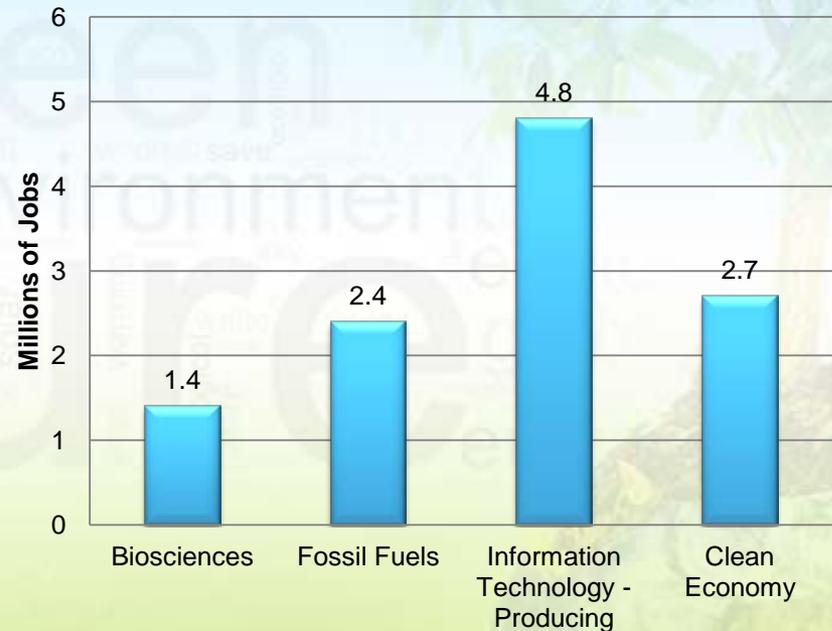
Annual Growth - 2003-2010 (%)



Green Jobs vs. U.S. Sectors

- Green economy provides more jobs than several industries

The Clean Economy Compared with Other U.S. Economy Sectors



Source: Adapted from the Brookings Institution 2011, p. 19

Manufacturing & Exports

- Compared to overall U.S. economy, the green economy is...
 - Keeping more jobs at home
 - More manufacturing intensive
 - 26% of green jobs in manufacturing vs. 9% in the overall U.S. economy
 - More export intensive

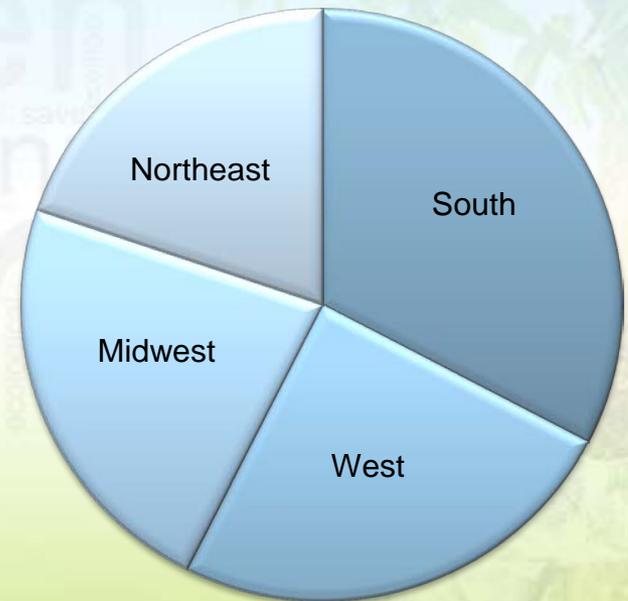
Exports Per Job - Clean Economy vs. Overall U.S. Economy, 2009



Where are Green Jobs?

- 64% of U.S. green jobs in largest metro areas
 - 75% were created between 2003-2010

Share of Green Jobs by Region



Metro Areas with the Most Clean Economy Jobs, 2010

Metro Area	Clean Economy Jobs (%)	Clean Share of All Jobs (%)
New York-Northern New Jersey-Long Island, NY-NJ-PA	152,034	1.8
Los Angeles-Long Beach-Santa Ana, CA	89,592	1.7
Chicago-Joliet-Naperville, IL-IN-WI	79,388	1.8
Washington-Arlington-Alexandria, DC-VA-MD-WV	70,828	2.3
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	54,325	2.0
San Francisco-Oakland-Fremont, CA	51,811	2.7
Atlanta-Sandy Springs-Marietta, GA	43,060	1.9
Boston-Cambridge-Quincy, MA-NH	41,825	1.7
Houston-Sugar Land-Baytown, TX	39,986	1.6
Dallas-Fort Worth-Arlington, TX	38,562	1.3

Metro Areas with the Highest Share of Clean Economy Jobs, 2010

Metro Area	Clean Economy Jobs (%)	Clean Share of All Jobs (%)
Albany-Schenectady-Troy, NY	28,087	6.3
Knoxville, TN	16,135	4.9
Sacramento-Arden-Arcade-Roseville, CA	37,319	4.5
Harrisburg-Carlisle, PA	13,025	4.0
Toledo, OH	11,831	3.9
Springfield, MA	10,443	3.5
Madison, WI	12,337	3.5
Little Rock-North Little Rock-Conway, AR	11,934	3.4
Greenville, Mauldin-Easley, SC	10,127	3.4
Raleigh-Cary, NC	16,677	3.3

Future Green Jobs Growth

- By 2020: Clean energy market projected at \$2.3T worldwide (Center for American Progress)
- By 2030: 4.2M new green jobs = 10% of all jobs growth (Global Insight)

save world protection environment nature solar growth global sky



Business & Job Opportunities in the Green Economy

TOOLS FOR CREATING NEW GREEN BUSINESSES & JOBS

Creating New Green Jobs

- Two ways to create new green jobs:
 1. Start a new greener company
 2. Grow existing greener company

environment
nature
global
solar
world
growth
protection
save
world
envi



Creating New/Growing Existing Green Businesses

- SDIC has developed a new suite of integrated green business tools in English and Spanish.
 - Addresses every type of green business best practice



Green Business Development Training Manual



The Green Business Development

Training Manual



Amy K. Townsend, Ph.D.

Gretchen Heine

Sustainable Development International Corp.

Free & Low-cost Resources Manual

The Green Business Development

Free & Low-cost Resources Manual



Sustainable Development International Corp.

Sustainability Reporting Template

The Green Business Development

Sustainability Reporting Template



Amy K. Townsend, Ph.D.

Sustainable Development International Corp.

Web Site

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Helping individuals and organizations create healthy, self-sufficient communities and advancing the green economy.

Welcome to Green HOPE!

- Tools
- Jobs & Funding
- Training & Certification
- Spanish-Language Resources

"HOPE" stands for "Helping Organizations and Professionals Excel." That is what we hope to do through this web site. The Green HOPE Organizational and Workforce Development Program provides many free tools. These tools can help people who want to learn how to start a greener company or make an existing company greener.

News, Events & Media

February 28, 2011
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Certification – Individual

- Individuals undergo training based on green business, systems thinking, ecoliteracy
- Provides basis for “green thinking” regardless of industry individual works in
 - Low-income individuals tend to change jobs/industries more often than average U.S. worker
 - Important to train people to “think green” rather than training for one particular industry
 - Never need to recertify



Certification – Organizational

- Individuals: 5 levels of greening
 - Need to recertify every 24 months



QUESTIONS

nature

ecological

green

environment



environment
ecology
global
sky
growth
community
solar
world
globe
future
save
world
nature
ecological
green
environment

7 Steps to Creating a New Green Business

Study green growth trends

Identify your strengths and interests

Develop a business idea

Do market analysis/feasibility study

Take part in a free mentoring program

Develop business plan

Execute business plan

Web Site – Key Terms

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Important Terms

If you've heard about green business, you've probably heard many different terms like green, sustainable, energy-efficient, and others. This section will give a quick overview of these terms and what they mean.

Adaptive Management: Adaptive managers try to improve the relationship between humans and their environments. Adaptive managers study the effects of human activities on the environment. Then, they try to figure out how to change human behavior for good environmental results. Because ecosystems are always changing, it is important to understand those changes and to adapt human behavior, too.

Alien species: A species (including eggs, seeds, spores, etc.) is alien when it is found in an ecosystem where it did not originate.

Biogeochemical cycle: This is also known as the "nutrient cycle." It is nature's process of moving different chemical elements around and through Earth. The water cycle is shown below.



The Water Cycle

The diagram illustrates the water cycle with the following components and processes:

- Water storage in ice and snow** (top left)
- Water storage in the atmosphere** (top center)
- Condensation** (top right)
- Evaporation** (middle right)
- Evapotranspiration** (middle right)
- Sublimation** (middle left)
- Precipitation** (middle left)
- Snowmelt runoff to streams** (middle left)
- Surface runoff** (middle)
- Transpiration** (middle)
- Water storage in oceans** (bottom right)
- Groundwater discharge** (bottom center)
- Groundwater storage** (bottom center)
- Spring** (bottom center)
- Freshwater storage** (bottom center)
- Streamflow** (bottom center)
- Watershed** (bottom left)

USGS logo is visible in the bottom left corner of the diagram.

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save world

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Green Business Market Overview

This section talks about green business trends and why companies are going greener. It explains why companies decide to be greener. It also explains why green business is growing.

Growth of the Green Economy

Businesses all over the world are going greener. Green business is fairly new. Many companies claim to be "green" companies are greener than they used to be. However, many are not. Some are just trying to get ahead of their competition. Few are truly sustainable. "Sustainable business" means that a company does not hurt the environment, humans, or the economy.

The green economy is starting to appear in many different ways (see figure below).

- Some companies that are already in business are becoming greener. Wal-Mart is one example.
- Others were created as greener companies.
- Still others are working in new "green" industries, like renewable energy.

Some people and governments are worried about climate change, pollution, fewer resources, and human health. These are a few reasons why green business is here to stay.

Wal-Mart Greening of existing firms in existing industries

Patagonia Creation of greener firms in existing industries

BP New or existing companies enter new greener industries

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Green Business Trends

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Web Site – Tools

The screenshot displays the GreenHOPE website interface. At the top left is the GreenHOPE logo. A horizontal navigation menu includes links for home, about sdic, green business, tools, jobs & funding, certification, news, resources, and contact us. The 'tools' menu is expanded, showing a list of resources: downloadable posters & signs, brief presentations, resources for business development, improvement, & expansion, green business plan template, and references. The main content area is divided into two sections. The left section, titled 'Downloadable posters & signs', contains the instruction 'Open each file, then save to your computer.' followed by a list of 18 downloadable items, including 'Green Ideas #1-3', 'Green Team Meeting #1-5', 'Make a Difference #1-4', 'Recycle #1-2', and 'Restore the Places Where We Live & Work #1-2'. The right section, titled 'News, Events & Media', features a date 'February 28, 2011' and a 'News Article' link. Below this is a welcome message: 'Welcome to GreenHOPE! Add your comments here.' with a 'Read more' link. A video player is embedded in this section, showing a sunset over a field of wheat. The footer contains a secondary navigation menu, a copyright notice for 2011 Green Hope, Inc., and a logo for the National Wildlife Federation.

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Downloadable posters & signs

Open each file, then save to your computer.

- [Green Ideas #1](#)
- [Green Ideas #2](#)
- [Green Ideas #3](#)
- [Green Team Meeting#1](#)
- [Green Team Meeting #2](#)
- [Green Team Meeting #3](#)
- [Green Team Meeting #4](#)
- [Green Team Meeting #5](#)
- [Make a Difference #1](#)
- [Make a Difference #2](#)
- [Make a Difference #3](#)
- [Make a Difference #4](#)
- [Recycle #1](#)
- [Recycle #2](#)
- [Restore the Places Where We Live & Work #1](#)
- [Restore the Places Where We Live & Work #2](#)
- [Save Water](#)
- [How Much Water Do You Use?](#)

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Web Site – Jobs & Funding

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Funding Sources

There are several funding sources for new and existing green business loans, venture capital, and other funding sources. These will be discussed below.

Federal

The American Recovery and Reinvestment Act (ARRA) has had a large impact on the growing green economy. ARRA budgeted \$110 billion for clean energy. This includes:

- \$34 billion: To increase energy efficiency over two years.
- \$17.7 billion: To modernize and expand transit systems. This includes light rail and high-speed rail.
- \$7.9 billion: To develop renewable energy
- \$10.9 billion: To modernize/expand electricity grid
- \$500 million: To green collar job training

ARRA can help low-income companies and communities that are ready for green jobs. President Obama has said he wants to create 5 million green jobs in the U.S. over the next ten years. There are green jobs in many low-income communities. Some of these are in Kansas City, Chicago, Pittsburgh, New York, Baltimore, and other cities. They are also in rural areas and smaller towns.

The U.S. is ready for a green economy for many reasons. ARRA funding has helped to jump-start greening in some areas. There is a growing demand for greener products and services. Several green industries are growing.

A few Federal funding sources include:

- [U.S. Department of Housing and Urban Development Community Development Block Grants](#)
- [U.S. Internal Revenue Service Industrial Revenue Bonds](#)
- [U.S. Department of Labor Workforce Investment Act](#)
- [U.S. Department of Agriculture Business and Industry Loan Guarantees](#)
- [U.S. Department of Commerce Public Works and Economic Development Program](#)

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Advantages & Disadvantages of Funding Sources

There are advantages and disadvantages to each type of funding.

Loans & Grants

Follow these links for more information about small business loans and grants:

- [SBA Loans](#)
- [Disaster Assistance Loans](#)
- [Energy Efficiency Loans](#)
- [Farm and Agricultural Loans](#)
- [Export Assistance Loans](#)
- [Rural Business Loans](#)
- [Loans for Veterans](#)

Venture Capital

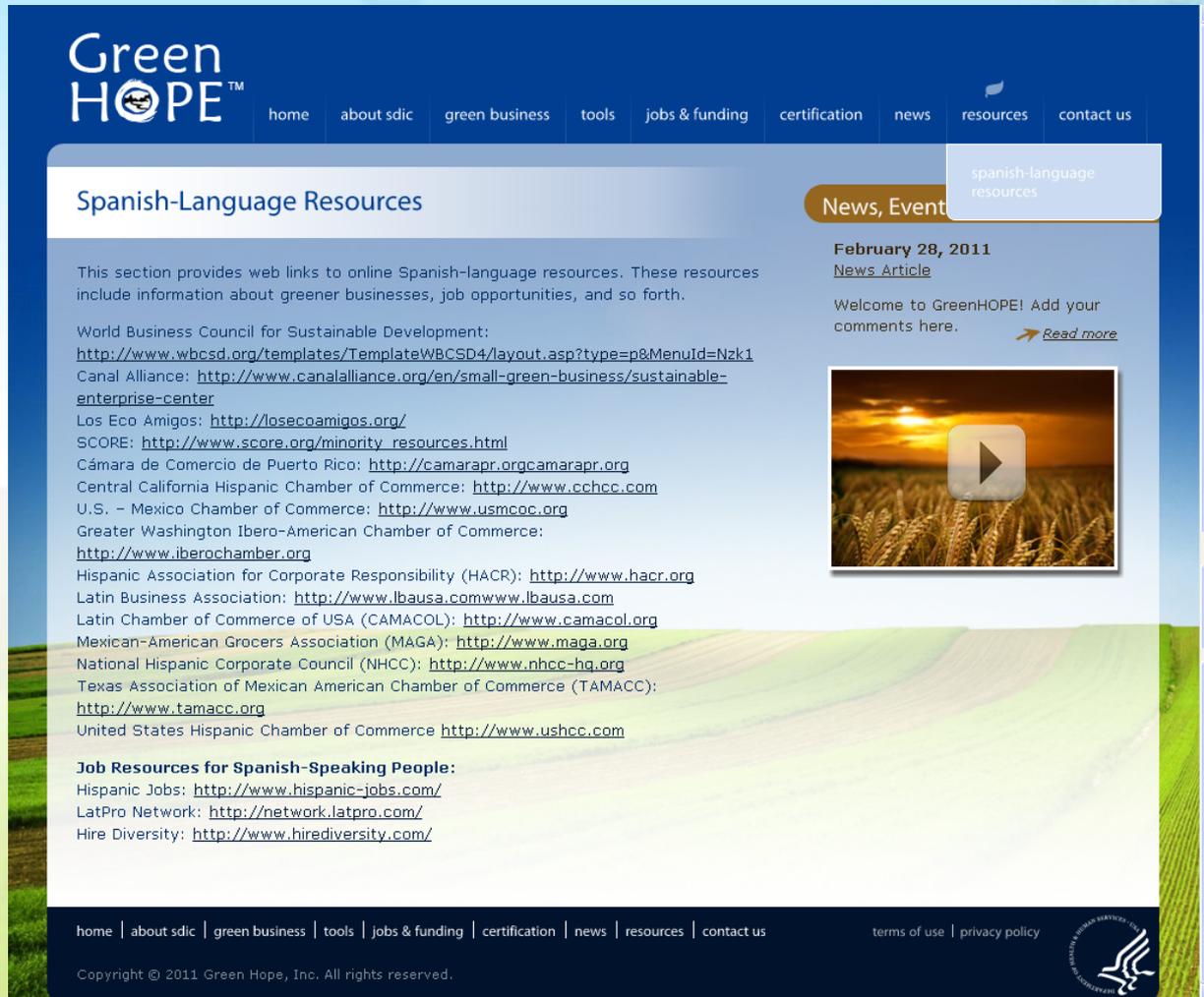
- [Green VC](#)

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Web Site – Spanish Language Resources



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Spanish-Language Resources

This section provides web links to online Spanish-language resources. These resources include information about greener businesses, job opportunities, and so forth.

World Business Council for Sustainable Development: <http://www.wbcsd.org/templates/TemplateWBCSD4/layout.asp?type=p&MenuId=Nzk1>

Canal Alliance: <http://www.canalalliance.org/en/small-green-business/sustainable-enterprise-center>

Los Eco Amigos: <http://losecoamigos.org/>

SCORE: http://www.score.org/minority_resources.html

Cámara de Comercio de Puerto Rico: <http://camarapr.orgcamarapr.org>

Central California Hispanic Chamber of Commerce: <http://www.cchcc.com>

U.S. – Mexico Chamber of Commerce: <http://www.usmcoc.org>

Greater Washington Ibero-American Chamber of Commerce: <http://www.iberochamber.org>

Hispanic Association for Corporate Responsibility (HACR): <http://www.hacr.org>

Latin Business Association: <http://www.lbausa.comwww.lbausa.com>

Latin Chamber of Commerce of USA (CAMACOL): <http://www.camacol.org>

Mexican-American Grocers Association (MAGA): <http://www.maga.org>

National Hispanic Corporate Council (NHCC): <http://www.nhcc-hq.org>

Texas Association of Mexican American Chamber of Commerce (TAMACC): <http://www.tamacc.org>

United States Hispanic Chamber of Commerce <http://www.usfcc.com>

Job Resources for Spanish-Speaking People:

Hispanic Jobs: <http://www.hispanic-jobs.com/>

LatPro Network: <http://network.latpro.com/>

Hire Diversity: <http://www.hirediversity.com/>

News, Event

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Benefits of Green Jobs

- How do green businesses and green jobs help the community?
 - Economic Benefits
 - Help lower energy costs
 - Save low and moderate-income families on heating/air costs
 - Attract other green companies to invest in the area
 - Health (Ecological, Human, Social) Benefits
 - Create a healthier, more attractive environment
 - Increase community ecological resilience
 - Reduce carbon footprint of older cities
 - Rejuvenate aging building stock

Examples of Green Sectors & Jobs

- **Air & climate sector jobs:**
 - Install and maintain scrubbers/ filters to clean stack emissions
 - Install climate change technologies
- **Buildings**
 - Build and maintain green buildings
 - Weatherize buildings
 - Install solar panels
 - Install and maintain green roofs and living walls
- **Energy**
 - Make solar panels
 - Make wind turbine parts
 - Install wind turbines
 - Build and maintain solar, wind, and wave farms
 - Build, maintain, and run biofuels plants

Examples of Green Sectors & Jobs

- Food

- Grow organic food for local and regional distribution (coops, farmers markets, local stores)
- Sell healthy food through local venues

- Health

- Provide health education to individuals and communities
- Teach exercise classes
- Provide personal training services

- Infrastructure

- Repair roads, bridges, other infrastructure
- Improve and maintain nation's infrastructure

Examples of Green Sectors & Jobs

- Land
 - Install and maintain green landscapes
 - Plant and maintain trees and other plants
 - Rehabilitate brownfields and other degraded land
 - Establish and maintain eco-industrial parks
 - Reforest deforested areas
- Security
 - Provide services for companies, communities
- Textiles
 - Production and repair of clothing and other textiles
 - Production and repair of shoes

Examples of Green Sectors & Jobs

- **Transportation**

- Build and maintain efficient vehicles
- Build and maintain roads
- Build and maintain transit lines
- Install and maintain bike paths

- **Waste**

- Collect, recycle, reuse
- Produce and use compost

- **Water**

- Purification, collection, distribution, and management

Problem

- Most green business best practices result in green-er businesses but not truly green ones
 - There are several reasons for this, including...
 - Most GBBPs do not include the entire company in greening.
 - Most GBBPs focus on reducing environmental harm, not on rebuilding environmental health.
 - Some people are beginning to recognize it's not enough to slow environmental damage – we need to restore health to degraded places and rebuild natural resources for present and future generations... of all species.

Green Training Manual

- **MANUAL: Step-by-step Green Business Development Training Manual**
 - Content
 - Explains what green is and why it's important for low-income individuals and distressed communities
 - Divides the organization into five elements and explains how to green each one – mission, staff, operations, facilities & sites, products & services
 - Provides 12 guiding principles for greening any organization
 - Provides examples of organizations that have become greener
 - Provides templates (how to create green team, how to measure resource use, staff attitude questionnaire, green business plan)
 - Design
 - Accessible and fun
 - Cartoon illustrations
 - English (Spanish version by Spring 2012)

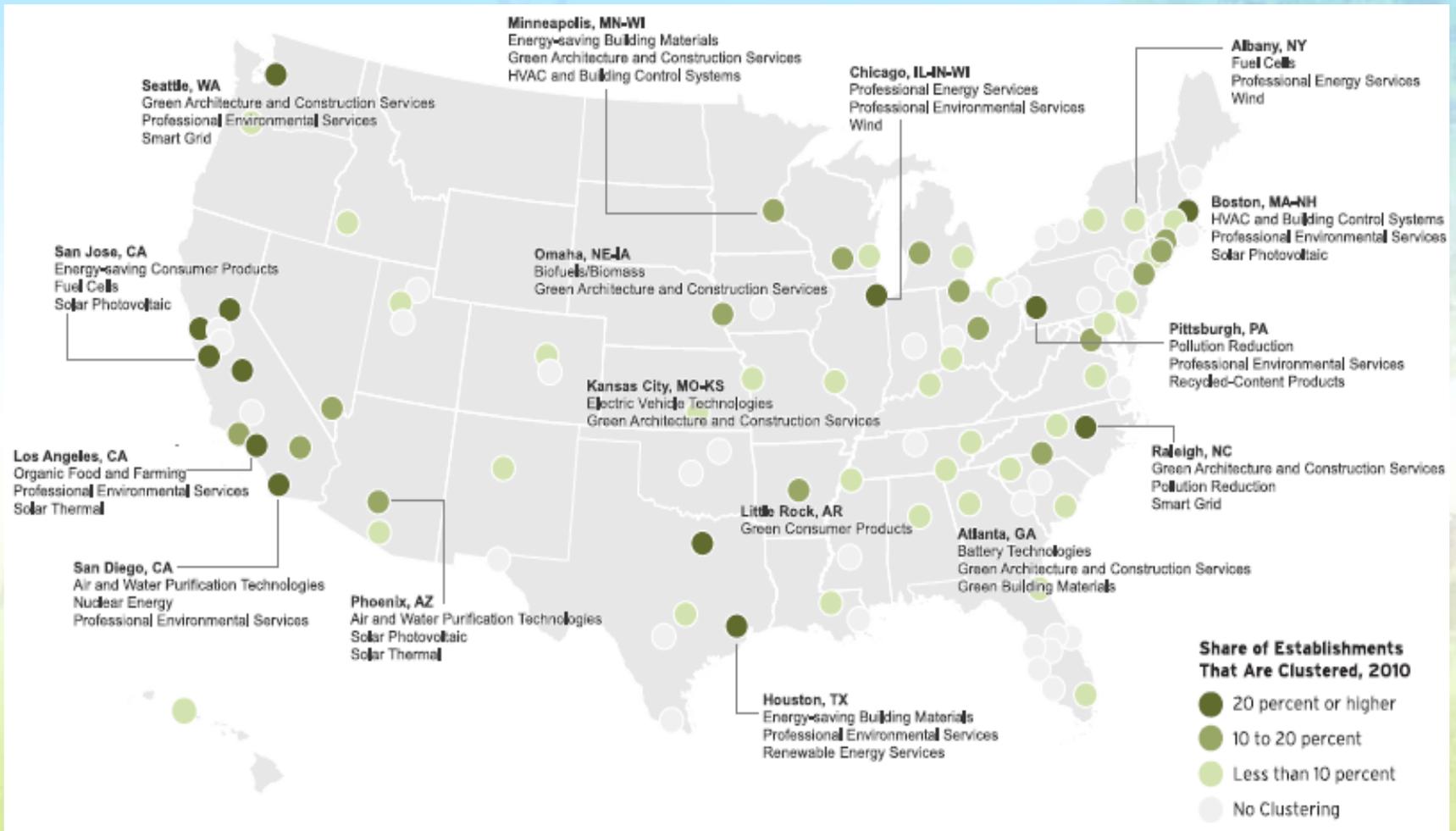
Web Site

- **WEB SITE: Multi-resource Green Business Web Tool**
 - Content
 - Green Business Development Training Manual (PDF format)
 - Overview of industries going greener
 - “Green in Action”: video/audio interviews with green business leaders and community development organizations that have brought green jobs to their communities
 - Information on loans, venture capital, other funding sources for green business startups and expansion
 - Information on green opportunities in different regions of U.S.
 - Resource maps showing free green resources (SCORE, SBDCs)
 - Posters/signs that can be downloaded (recycling, reducing energy)
 - Links to green job sites, green business resources, environmental education resources, certification sites, Spanish-language resources

How Companies Green

- Most “green business best practices” result in greener companies that still take more than they give back ecologically
 - Very few businesses are truly green, but many are greener than their competitors
 - Eventually, we will need to create companies that begin restoring ecosystems and natural resources

Where Green Clusters Are



“GREEN BUSINESS”- LOAN INVESTMENT PROJECT



Presented by: Roberto Barragan, VEDC



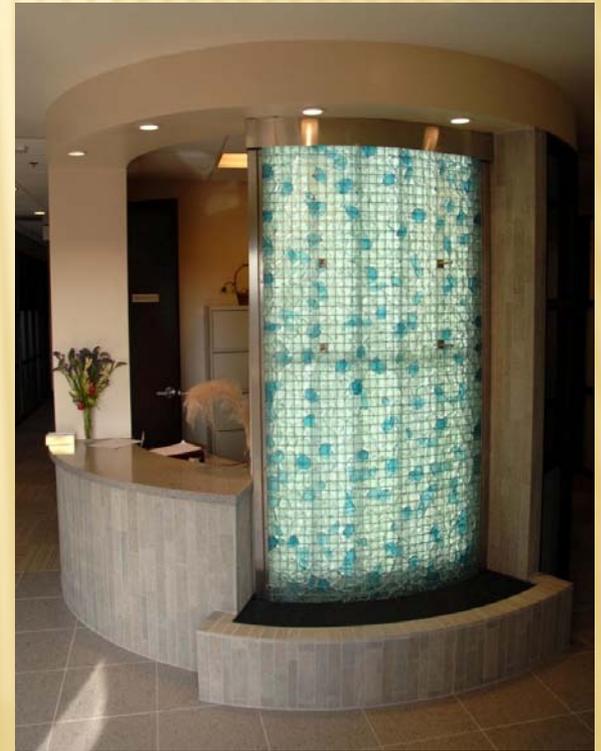
VEDC – BACKGROUND

- Non-Profit 501c(3), CDFI, established in 1976
- **Service Area:** Los Angeles Metropolitan Area and lending throughout California
- **VEDC Offers:**
 - Small Business Loan Programs, ranging from \$25,000-\$500,000
 - Micro Loan Programs, ranging from \$1,000-\$50,000
 - Technical Assistance



ULTRAGLAS, INC.

- ✘ Founded by Jane Skeeter in 1987
- ✘ Architectural glass via a process called, “Kiln-forming”
- ✘ Embossed glass, available in
 - + Custom textures
 - + Patterns
 - + Designs
 - + Shapes and sizes
 - + Colors
- ✘ Textured glass provides diffusion
For privacy, while retaining great light
transmission



ULTRA GLAS, INC. (GREEN INITIATIVE)



- ✘ Skeeter began looking for millions of architectural scraps of glass left in landfills
- ✘ Only 25% of glass is recycled and majority is container glass
- ✘ Skeeter created: “UltraGlass-e” a material consisting of recycled architectural glass, broken into chunks then processed into round edged glass (see left picture)

ULTRAGLAS, INC. (GREEN INITIATIVE-CONTINUED)

- ✘ Building Integrated Photovoltaic Glass (aka solar panels)
 - + Encapsulates thin solar panel between 2 laminated glass pieces



- + Serves as a renewable source of electricity for structures



MARKET DEMAND

- ✘ UltraGlas, Inc. is the pioneer of architectural kiln formed glass in the U.S.
- ✘ Low cost
- ✘ Energy Efficient
- ✘ Increases value to building structure



MEDIA CLIP

<http://www.youtube.com/user/RandyWittProductions?feature=mhee#p/u/12/THceLMpPVzw>

JOBS CREATED IN LOW INCOME COMMUNITY

- ✦ 3 jobs created to date, 60 to be created in next 2 years; 16 jobs retained





DEAL STRUCTURE

- ✘ 5 year loan at 6%, quarterly dividends
- ✘ Warrants issued for up to 10% of company w option to buy back at escalating price for up to 5 years
- ✘ No personal guarantee,
- ✘ Collateral limited to company assets.