

National Association of Regional Councils
45th Annual Conference and Exhibition

Discussion Session: Finding Green Jobs: Separating Myth from Reality



NARC

Building Regional Communities



NARC
Building Regional Communities

Finding Green Jobs – Separating Myth from Reality

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Government Solutions



National Association of Regional Councils
June 13, 2011 – NARC National Conference

Agenda

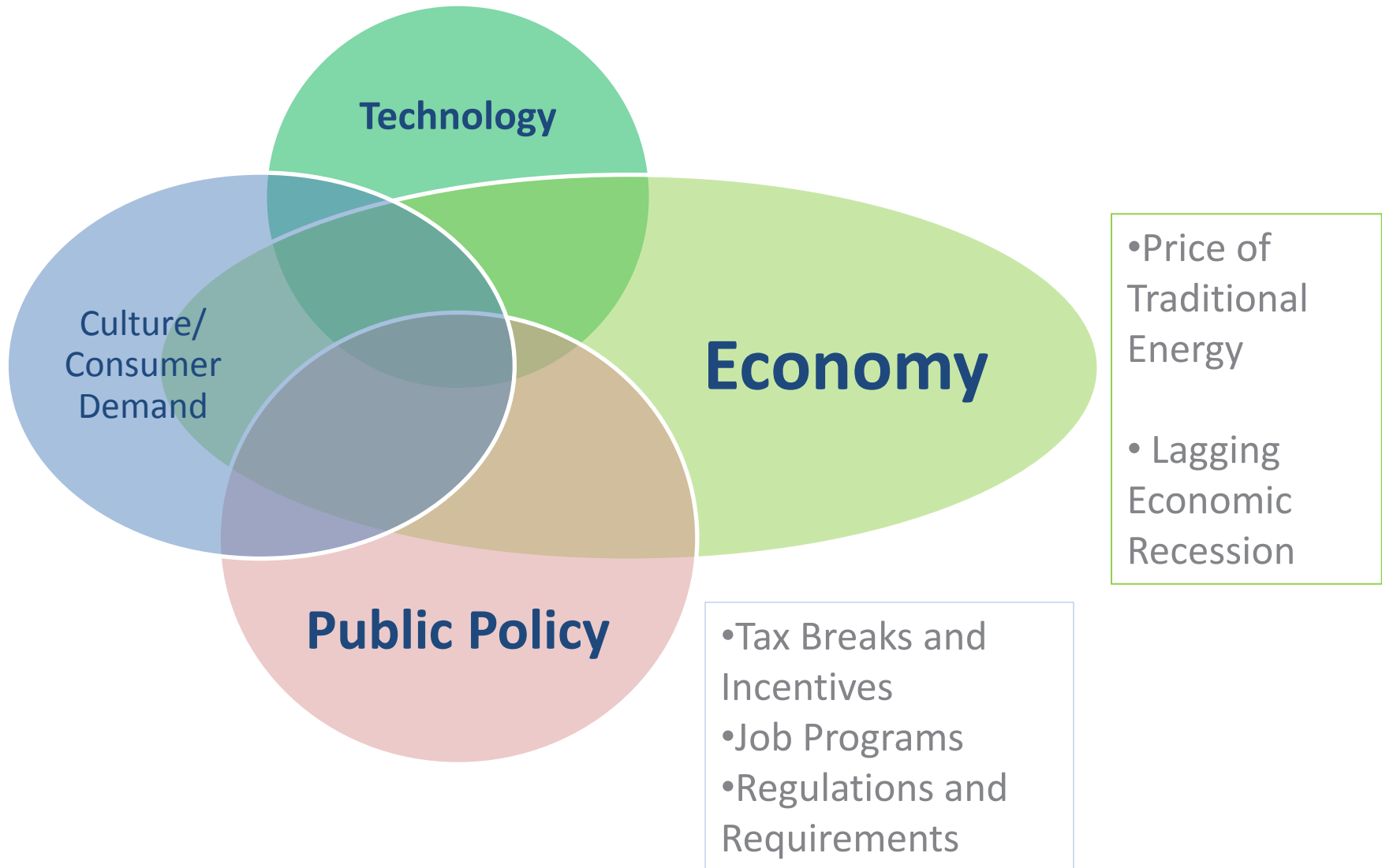
- The State of Green
 - General Remarks
 - Definitions
 - The Market Now... and Later
 - Top 10's... Jobs, Employers, States
- *Pathways Out Of Poverty* Update
 - The Good, The Bad, and the... GREEN
 - The Permian Basin (Texas) Experience
- Lessons Learned/Takeaways
- Q&A

Opening Remarks

Green jobs...good news, but often confusing to the consumer, the worker and local governments....



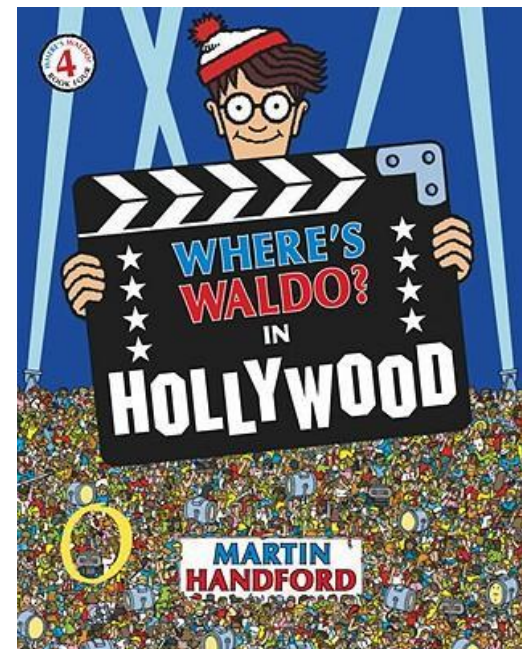
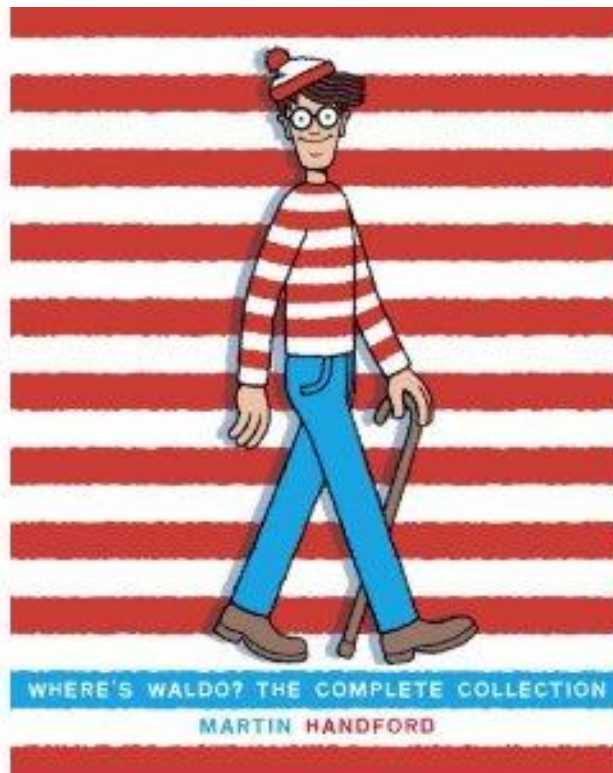
New Green Job Growth Drivers



Why The Disconnect on Green Jobs?

- Economy Still Struggling (Weak Demand from Employers)
- Anemic New Residential Construction Growth
- Utilities Sitting Tight...Plus, Wall Street Penalizing Risk Through Poor Bond Ratings
- Generation Gap...Baby Boomer Decision-Makers Slow to Embrace Green/Change
- Green Training Classes Too Difficult or Too Fast for Unemployed, or Too General for Many Employers (Mostly A Supply Issue)

*Finding Solar and Wind Jobs in 2011 is Like
Finding This Guy...*



The State of Green...

What are Green Jobs?

- By Definition:
 - “Jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources; Jobs in which workers’ duties involve making their establishment’s production processes more environmentally friendly or use fewer natural resources.”

- U.S. Department of Labor, Bureau of Labor Statistics

The State of Green...

What are Green Jobs?

- Why is it important to support a green economy?
 - The U.S. is currently facing the highest unemployment rate in decades, while also being confronted with environmental and energy challenges.
 - Green jobs will help “sustain economic growth and spur renewed hiring for the millions of Americans who need and want work. And these kinds of investments will help all workers succeed... while laying the foundation for our country’s long-term recovery.”

Secretary of Labor, Hilda Solis

- Green Jobs stand to bolster the economy:
 - It is estimated the economic potential of green building will “support or create 7.9 million jobs between 2009-2013 and will contribute \$554 billion to the U.S. gross domestic product.”

U.S. Green Building Council, “Green Building Creates Green Jobs for a Green Economy”

Where are all the GREEN Jobs?

(or...Is This Environmental Remediation???)



What Does the Current Landscape of Green Training Look Like?

- Largely unregulated
- Multiple, competing & confusing credentials
- Public & private, amateur & experienced training providers in a literal “Gold Rush”
- Huge differences in training quality
- On-line training is the new frontier – and it’s not cheap

The Wild, Wild West...



Everybody has a Top 10 ...

“Top 10” Green Jobs, Fast Company (2009)

- Farmer
- Forester
- Solar Power Installer
- Energy Efficiency Builder
- Wind Turbine Fabricator
- Conservation Biologist
- Green MBA/Entrepreneur
- Recycler
- Sustainability Systems Developer
- Urban Planner

Most Green Jobs are Not “New” Jobs

Construction, Installation, Repair, and Maintenance

Skilled Trades Workers and Laborers

Building Auditors and Raters

Construction and Facilities Managers

Architecture, Engineering, and Project Management

High-skill Design, Engineering, Project Mgt.

Manufacturing

Production of Green Products and Parts

Research and Development

Basic Research, Testing and Development of New Green Products and Technologies

Business

Administration

Financial/Sales/Marketing

Information Technology

Carbon/SREC trading

New York State Green Jobs Study: “Common Green Occupations”

Construction Trades (76,000 total workers)

1 Heating, Ventilation and Air Conditioning (HVAC) Installers—10,000
Carpenters—9,000, Plumbers—8,000, Electricians—8,000

Building Services (67,000 total workers)

1 Janitors and Cleaners—40,000
Building and Grounds Supervisors—6,000

Professional Services (31,000 total workers)

1 Architects—9,000
Civil Engineers—4,000, Drafters—4,000, Mechanical Engineers—3,000

Component Manufacturing (5,300 total workers)

1 Team Assemblers—700
Steel Workers—600, Sheet Metal Workers—500

Monster Monitors State Data

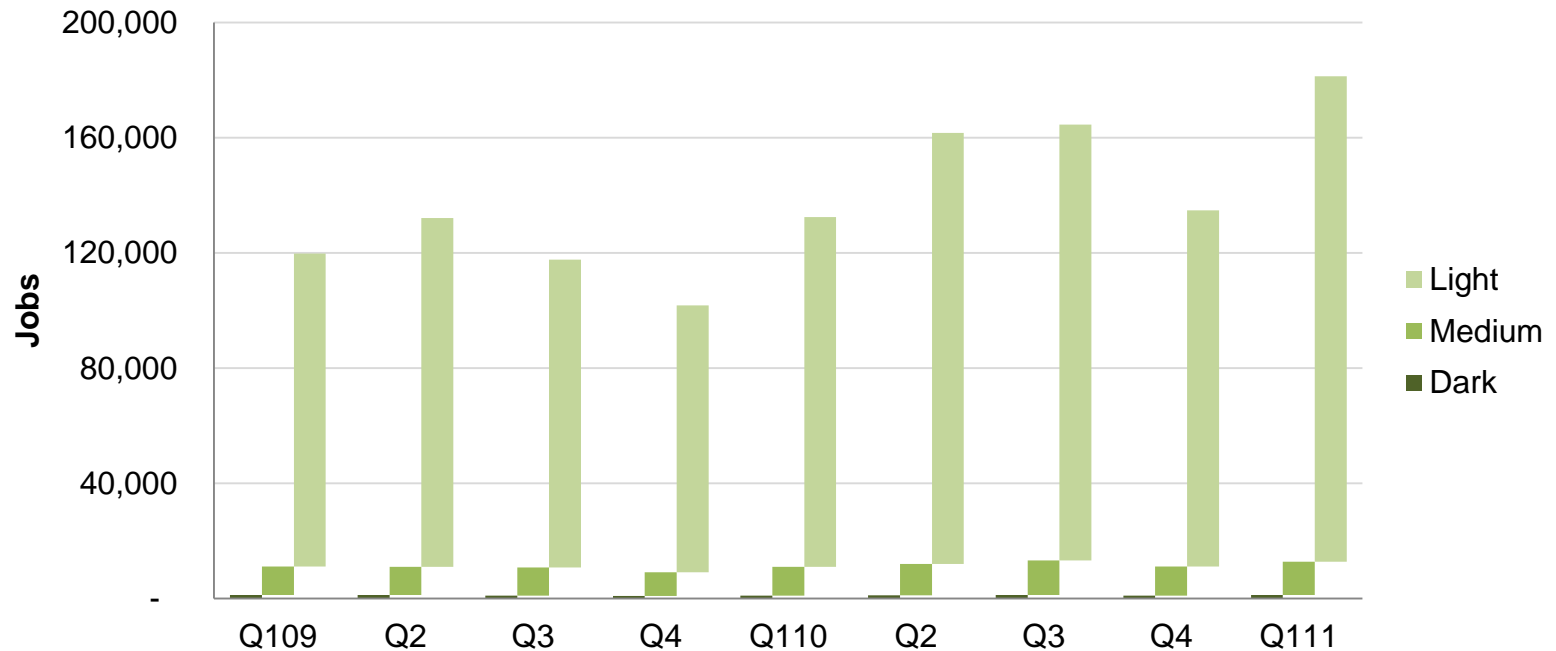
Prominent Green Occupations as a Percent of Total Direct Green Jobs

SOC	Occupation	Indiana	Michigan
n/a	Total, All Green Occupations	46,879	96,767
11-9021	Construction managers	1.1%	1.2%
17-2051	Civil engineers	3.2%	0.8%
17-2071	Electrical engineers	1.1%	1.6%
17-2081	Environmental engineers	1.0%	1.0%
17-2141	Mechanical engineers	1.9%	7.0%
19-2041	Environmental scientists and specialists, including health	1.0%	1.6%
37-3011	Landscaping and groundskeeping workers	6.4%	2.3%
45-2092	Farmworkers and laborers, crop, nursery, and greenhouse	2.3%	3.4%
47-2031	Carpenters	1.2%	1.2%
47-2111	Electricians	4.1%	1.8%
49-9021	Heating, air conditioning, and refrigeration mechanics and installers	2.9%	3.6%
49-9042	Maintenance and repair workers, general	1.3%	1.9%
51-1011	First-line supervisors/managers of production and operating workers	2.0%	1.2%

⁵Largest number of direct green jobs reported by occupation that were common across both states.
Source: Indiana and Michigan Green Job Surveys

National Green Job Demand

Total Green Jobs, Last 9 Quarters



Quarter	Q109	Q2	Q3	Q4	Q110	Q2	Q3	Q4	Q111
Dark	1,263	1,224	1,045	872	1,049	1,098	1,284	1,032	1,201
Medium	9,834	9,838	9,771	8,231	9,974	10,895	11,941	10,143	11,618
Light	108,684	121,027	106,804	92,629	121,443	149,686	151,326	123,611	168,456
Total	119,781	132,089	117,620	101,732	132,466	161,679	164,551	134,786	181,275

Source: Wanted Technologies, 2009-01-01 to 2011-03-31

National Green Job Demand

Total Green Jobs, 2009 - 2010



Shade	2009	2010	# Change	% Change
Dark	4,404	4,463	59	1.3%
Medium	37,674	42,953	5,279	14.0%
Light	429,144	546,066	116,922	27.2%
Total Green	473,231	595,492	122,260	25.8%

Source: Wanted Technologies, 2009-01-01 to 2010-12-31

There Are Levels Of Green...

O*NET Green Job Categories by Green Level

Level	Occupations Categories
Dark Green	<p>1. New Green Occupations: These are new or completely transformed occupations, relative to the existing occupational framework. These occupations are generated by the unique skill or knowledge requirements of the green economy. Examples: Solar Photovoltaic Installers; Wind Energy Engineers; Energy Brokers.</p> <p>2. 'Green Skill' Enhanced Occupations: These are existing occupations for which the green economy is producing a new set of requirements. However, their other essential duties, skills, knowledge or credentials have generally remained unchanged. Examples: Architects and LEED certification; Legislators or government officials and environmental regulations; Compliance Officers and new environmental regulations; Waste Collectors and their ability to distinguish refuse from recyclable materials.</p>
Medium Green	<p>Increased Demand Occupations: The green economy has increased demand for workers in these occupations, but nothing about the occupation itself has changed. In other words, the social context of their job or the types of projects they work on may have changed, but the fundamental tasks, skills, or knowledge associated with their jobs have not. Examples: Electrical Power-Line Installers; Hydrologists;</p>
Light Green	<p>Includes 'Skills Enhanced' and 'Increased Demand' occupations. Jobs with some work activities related to the Green Economy, but the majority of work activities are not specifically green. (Ex. Civil Engineer; Biological Technician) These are sometimes understood as 'Green Skill Enhanced' jobs, where the Green Economy has forced a category of workers to add some specific green skill (ex. Architects and LEED certification). Green talent</p>

Top 10 Green Occupations

	Occupational Category (2-digit SOC code)	Jobs
1	Architecture and Engineering Occupations	51,957
2	Building and Grounds Cleaning and Maintenance Occupations	32,117
3	Transportation and Material Moving Occupations	20,621
4	Installation, Maintenance, and Repair Occupations	20,192
5	Construction and Extraction Occupations	19,098
6	Management Occupations	11,748
7	Life, Physical, and Social Science Occupations	9,526
8	Business and Financial Operations Occupations	4,620
9	Production Occupations	3,623
10	Sales and Related Occupations	3,251

	Occupation (6-digit SOC code)	Jobs
1	Landscaping and Groundskeeping Workers	26,253
2	Electrical Engineers	12,828
3	Heating and Air Conditioning Mechanics and Installers	11,939
4	Mechanical Engineers	9,412
5	Civil Engineers	8,264
6	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	6,296
7	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	6,260
8	Environmental Engineers	6,204
9	Truck Drivers, Heavy and Tractor-Trailer	5,886
10	Taxi Drivers and Chauffeurs	5,626

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Dark Green Occupations

	Occupational Category (2-digit SOC code)	Jobs
1	Architecture and Engineering Occupations	749
2	Life, Physical, and Social Science Occupations	325
3	Business and Financial Operations Occupations	14
4	Management Occupations	4
5	Construction and Extraction Occupations	3
6	Installation, Maintenance, and Repair Occupations	1

	Occupation (6-digit SOC code)	Jobs
1	Environmental Engineers	671
2	Environmental Scientists and Specialists, Including Health	238
3	Soil and Water Conservationists	61
4	Energy Engineers	32
5	Environmental Engineering Technicians	30
6	Environmental Science and Protection Technicians, Including Health	22
7	Water/Wastewater Engineers	11
8	Energy Auditors	10
9	Wind Energy Engineers	3
10	Solar Energy Installation Managers	3

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Medium Green Occupations

	Occupational Category (2-digit SOC code)	Jobs
1	Architecture and Engineering Occupations	5,457
2	Life, Physical, and Social Science Occupations	2,595
3	Construction and Extraction Occupations	793
4	Building and Grounds Cleaning and Maintenance Occupations	765
5	Business and Financial Operations Occupations	685
6	Production Occupations	493
7	Installation, Maintenance, and Repair Occupations	341
8	Management Occupations	295
9	Transportation and Material Moving Occupations	236
10	Sales and Related Occupations	205

	Occupation (6-digit SOC code)	Jobs
1	Environmental Engineers	3,883
2	Environmental Scientists and Specialists, Including Health	854
3	Energy Engineers	824
4	Landscaping and Groundskeeping Workers	718
5	Environmental Science and Protection Technicians, Including Health	716
6	Water and Liquid Waste Treatment Plant and System Operators	422
7	Environmental Compliance Inspectors	398
8	Environmental Engineering Technicians	379
9	Wind Turbine Service Technicians	292
10	Geoscientists, Except Hydrologists and Geographers	242

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Light Green Occupations

	Occupational Category (2-digit SOC code)	Jobs
1	Architecture and Engineering Occupations	46,409
2	Building and Grounds Cleaning and Maintenance Occupations	31,414
3	Transportation and Material Moving Occupations	20,408
4	Installation, Maintenance, and Repair Occupations	19,877
5	Construction and Extraction Occupations	18,328
6	Management Occupations	11,492
7	Life, Physical, and Social Science Occupations	6,849
8	Business and Financial Operations Occupations	3,974
9	Production Occupations	3,172
10	Sales and Related Occupations	3,065

	Occupation (6-digit SOC code)	Jobs
1	Landscaping and Groundskeeping Workers	25,590
2	Electrical Engineers	12,828
3	Heating and Air Conditioning Mechanics and Installers	11,938
4	Mechanical Engineers	9,412
5	Civil Engineers	8,213
6	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	6,288
7	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	6,234
8	Truck Drivers, Heavy and Tractor-Trailer	5,886
9	Taxi Drivers and Chauffeurs	5,586
10	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	4,345

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Green Employers and States

	Employer	Jobs
1	URS Corporation	1,789
2	Schneider National	1,041
3	Siemens	1,041
4	Waste Management	983
5	GE Energy	906
6	CH2M Hill	756
7	J.B. Hunt Transport	728
8	Pam Transport	656
9	AECOM	621
10	GE	611

	State	Jobs
1	California	18,443
2	Texas	15,464
3	New York	10,515
4	Florida	10,163
5	Pennsylvania	9,489
6	Ohio	8,476
7	Michigan	6,640
8	Massachusetts	6,303
9	New Jersey	6,159
10	North Carolina	5,784

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Dark Green Employers and States

	Employer	Jobs
1	URS Corporation	81
2	Agriculture, Natural Resources Conservation Service	40
3	AECOM	30
4	ARCADIS	28
5	Tetra Tech	16
6	Stantec	12
7	CONESTOGA-ROVERS & ASSOCIATES	11
8	Ecology and Environment, Inc.	11
9	ENVIRONMENTAL PROTECTION AGENCY	8
10	CDM	7

	State	Jobs
1	California	168
2	Texas	93
3	New York	62
4	Maryland	59
5	Pennsylvania	54
6	New Jersey	51
7	Colorado	42
8	Florida	41
9	Virginia	35
10	Georgia	34

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Medium Green Employers and States

	Employer	Jobs
1	URS Corporation	418
2	AECOM	199
3	CH2M Hill	191
4	Tetra Tech	126
5	Agriculture, Forest Service	108
6	ARCADIS	98
7	Waste Management	96
8	Siemens	67
9	NextEra Energy	66
10	CONESTOGA-ROVERS & ASSOCIATES	58

	State	Jobs
1	California	1,820
2	Texas	1,070
3	New York	661
4	Pennsylvania	653
5	Colorado	456
6	New Jersey	440
7	Maryland	430
8	Florida	407
9	Massachusetts	379
10	Illinois	366

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

Top 10 Light Green Employers and States

	Employer	Jobs
1	URS Corporation	1,427
2	Schneider National	1,041
3	Siemens	997
4	Waste Management	920
5	GE Energy	897
6	J.B. Hunt Transport	728
7	Pam Transport	656
8	Barr-Nunn Transportation	609
9	CH2M Hill	581
10	GE	580

	State	Jobs
1	California	16,661
2	Texas	14,452
3	New York	9,860
4	Florida	9,760
5	Pennsylvania	8,843
6	Ohio	8,111
7	Michigan	6,339
8	Massachusetts	5,942
9	New Jersey	5,720
10	North Carolina	5,551

Source: Wanted Technologies, 2011-03-13 to 2011-06-10

WHAT DID HE SEE?

AN OPPORTUNITY.



Pathways (Out of Poverty) Green Jobs Program

- **Project Mission/Overview:**

- Provide multi-faceted career path strategies for disadvantaged and dislocated workers in four regional sites across the country through training, certification, and apprenticeship programs in positions in growing green industries.



pathways

Project Overview

- Project Period:
 - January 29, 2010 – January 28, 2012
- Focus Industries:
 - Building Performance (Mostly Residential)
 - Heating, Ventilation and Air Condition (HVAC)
 - Energy- Efficient Building, Construction and Retrofit
 - Solar and Wind Entry Level
 - Deconstruction and Materials Reuse (OH)
 - Environmental Remediation (lots of mining, AZ)

Primary Goal of the Project

- Train and place 500 individuals, who must be:
 - 18 or older at time of enrollment
 - Fit into at least one of these categories:
 - Unemployed individual
 - High School dropout
 - Individual with a criminal record
 - Disadvantaged Individuals (i.e. no or low income)
 - Live in the targeted communities to be served that have a poverty rate of 15% or greater
- **Additional Demographic Classifications**
 - Veteran
 - Dislocated Worker
 - Limited English Proficiency
 - Persons with a Disability
 - Indian and Native Americans



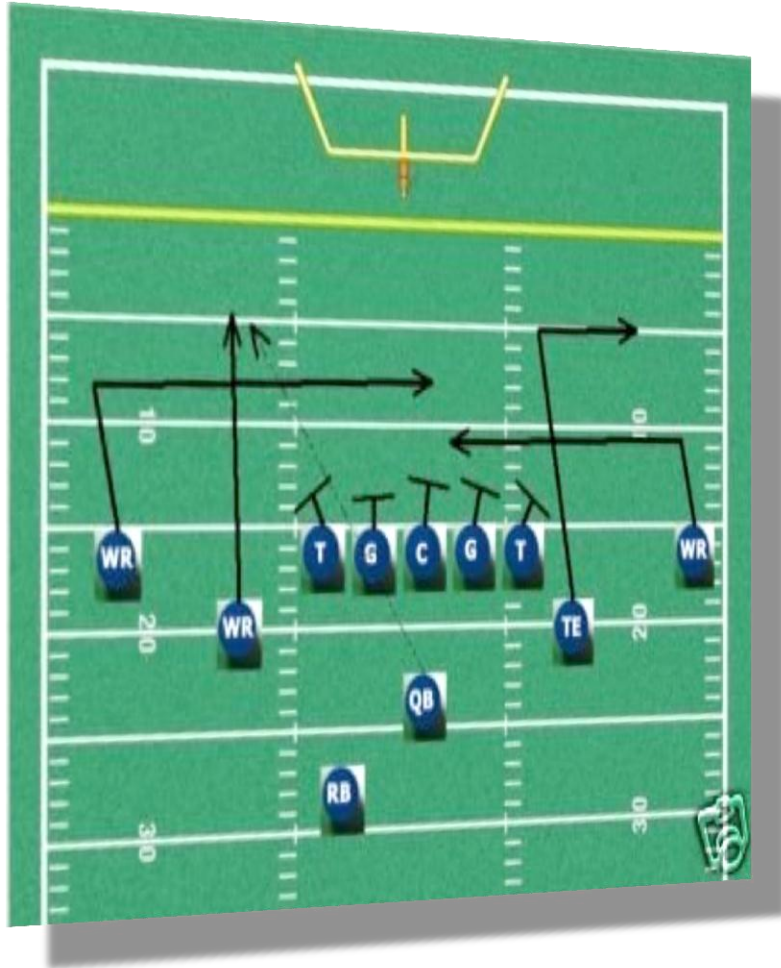
Goal of the Project



- **NARC & Partners Offer Participants**
 - Pre-employment training and retention support services;
 - Skill development and employment in established green trades;
 - Advancement in green career pathways through continuing education and on-the-job training;
 - Industry standard professional development and certifications guided by a National Advisory Council (NABCEP, etc.)



What's Worked?



- The Good (Our “Key Plays”)
 - Best Practices shared among the regions
 - Lead Sheets, One-Page Bios w/Photos, Craig’s List, Awards, Direct Employer Outreach, Tracking Energy Efficiency Stimulus and Utility Program Funds, Concentrating on the Demand Side
 - National Partners with experience
 - Intake tool built for the project, custom Web Portals for each region
- The Bad:
 - Not filling positions as fast as we would have liked
 - Employment landscape has been challenging due to the shifting economy
 - Employers willing to be apprenticeship sponsors is more difficult in this economy

The Permian Basin Experience

Green Jobs In A Booming Black Gold Economy



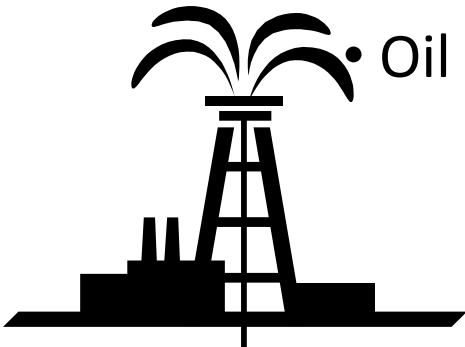
VS



The World

- Permian Basin Is Over 23,000 Square Miles
- 4.4% Unemployment In Region's Largest City
- 5.5% Unemployment For Entire Region

• Oil Is King In The Region

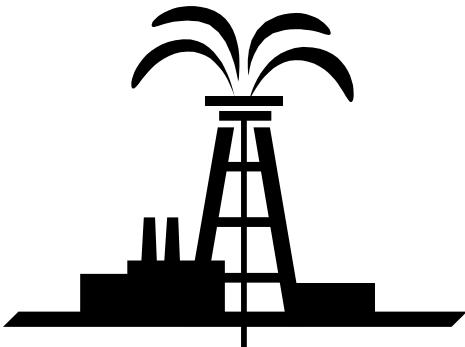


The Permian Basin Experience

Green Jobs In A Booming Black Gold Economy

West Texas Myths

- “Green” Costs Too Much Time & Money
- Green Jobs Do Not Exist
- Oil and Natural Gas Regions Will Not Accept Green
- Green Is Simply A Government or Liberal Agenda



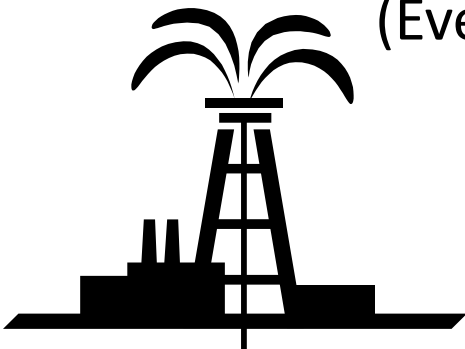
The Permian Basin Experience

Green Jobs In A Booming Black Gold Economy

West Texas Reality

- Green Jobs Are Available!
- Some People Are Hesitant To Give Green A Chance
- Oil Industry Is Stiff Competition
- Green Is Important To Everyone

(Even If It Is The Green In Their Wallet)



The Home Energy Workforce Initiative (a.k.a. “The Workforce Guidelines”)

What Is It?

- Voluntary national guidelines to support **quality work** and a **skilled workforce** in the private residential energy efficiency upgrade (home performance) industry
- Industry-driven plus U.S. Department of Energy leadership
- Lots of home energy performance training, credentials and accreditation in the near future!!!

Major Lessons Learned: Green Jobs and the Pathways Project

- Interview employers first
- Learn Labor Market Information (LMI)
- Green jobs are NOT a force for short-term job creation (generally)
- Long-term training may be necessary
- Foundational skills may be more important to employers than new green skills

Major Lessons Learned: Continued

- The “Right” Credentials Are Important
 - (BPI, NABCEP, IREC, LEED)
- Small Press Events Spur Employers
- Electric Utilities Are Key!
 - **New** “Home Energy Workforce” Initiative
- Informal Employer Advisory Groups Work
- Track Public Policy and Funding
- Listen to Employers More Than Statistics!

Questions



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Colorado Energy Group, Inc.



THANK YOU

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