

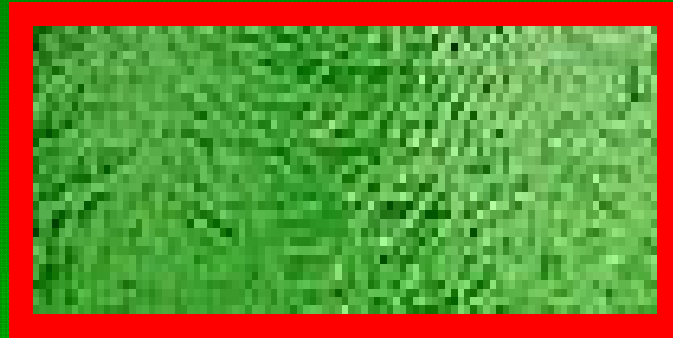
GREEN JOBS and the Green Economy:

Things I've Learned

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Workforce *Tulsa*

POP Quiz: What's this?



What's this?



The Chicago River
on St. Patrick's Day

Workforce *Tulsa*

Learning Point 1:

Anything can be GREEN.

It's all a matter of perspective.

It's all a matter of emphasis.



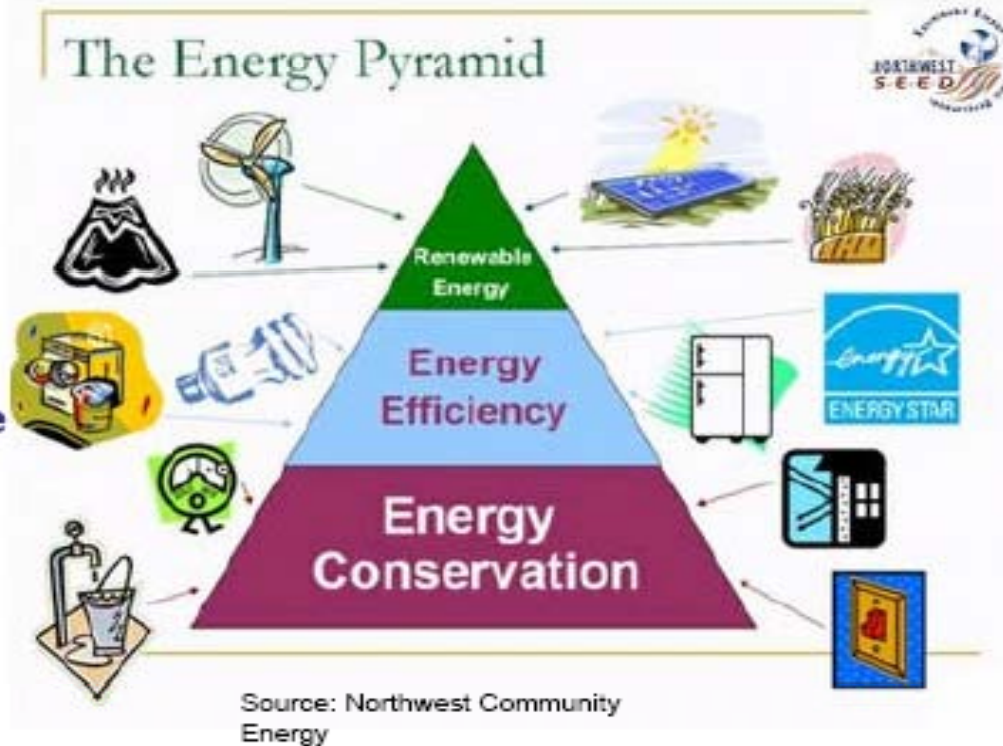
Two Sectors of Green Jobs

Energy Efficiency/Conservation

- Residential Weatherization
- Commercial and Industrial Retrofits

Renewable/Sustainable Energy

- Renewable: Solar, Wind, Biomass, Biofuel, Geothermal
- Sustainable: Hydrogen, Nuclear, Co-Generation

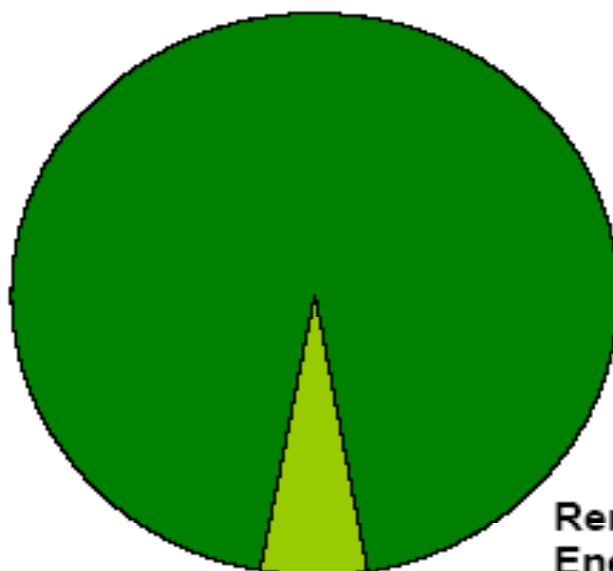




The Energy Efficiency Sector Dominates Today

2007 US Renewable Energy and Energy Efficiency Industries

Energy Efficiency =
3.8 million
jobs



Renewable
Energy =
218,000 jobs

Source: Management Information Services, Inc.
and American Solar Energy Society, 2008.

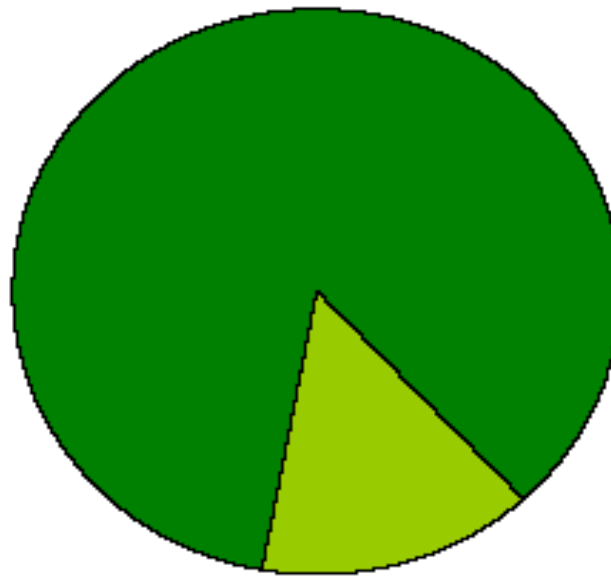
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Energy Efficiency will continue to dominate

2030 US Renewable Energy and Energy Efficiency Industries*

Energy Efficiency = 16.7 million jobs



Renewable Energy = 2.85 million jobs

Source: Moderate Scenario, Management Information Services, Inc. and American Solar Energy Society, 2008.

**Based on mid-range policy scenario*

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Learning Point 2:

Alternative Energy may be sexy, but
**conservation/efficiency is
where the jobs are**
both now and in the future.

Green Jobs Roundtables

- RT #1 Conservation/Remediation
February 17, 2009
- RT #2 Alternative Energy Generation
March 25, 2009
- RT #3 Creating the Smart Grid
May 5, 2009

Green Jobs Roundtable I: Process

- **25 Attendees from Business, Education and Government.**
- **Summarized provisions of ARRA and available funding streams.**
- **Asked for input regarding number/kind of jobs that might be created and time frames.**
- **Asked for input regarding barriers or constraints to quick implementation.**

Green Jobs Roundtable I: Learnings

- **Most immediate job creation in weatherization of residential properties. Longer term, higher skilled positions for commercial and governmental properties will come later.**
- **Barrier: lack of credible empirical evidence to substantiate business decisions. No standard scope of work documents or vetted contractor list.**
- **Outcome: working with Community Action Agencies on recruiting and training development in conjunction with ODOC and Career Tech.**

Green Jobs Roundtable II: Process

- **45 Attendees from Business, Education and Government.**
- **Small group discussions and report on job creation potential by alternative energy source**

Green Jobs Roundtable II: Learnings Alternative Energy

- **Job creation potential for alternative energy sources is limited and/or transient.**
- **Advanced manufacturing facilities dedicated to “green” products such as urban-turban designs and solar hot water heating systems, ground source heat pumps, etc. can create substantial employment opportunities in the medium term (2 to 5 years).**

Green Jobs Roundtable III: The Smart Grid

- Replace existing metering structure with sophisticated automated meters. Provide consumers with the power they need to manage their own energy consumption. Some programs include active remote management of usage by particular appliances/systems.
- Load Management & Balancing. Optimize network performance for distributed generation and storage.
- Huge amount of work means **HUGE \$\$\$\$\$\$**
- Where does the capital come from? **Long time frame.**

Closing Thoughts

- **GREEN IS GOOD AND IT'S HERE TO STAY**
- **SEE THE FOREST, NOT THE TREES**
- **FOCUS, FOCUS, FOCUS**
- **GROW YOUR OWN**