



**GDS Associates, Inc.**  
Engineers and Consultants

# Job Growth and the Green Economy

**John P. Davulis, GDS Associates**  
**John Dorrer, Maine Dept. of Labor**

February 10, 2010

# Scope of Work

- What do we mean by the Green Economy?
- What industry segments comprise the Renewable Energy & Energy Efficiency (RE&EE) segments of the Green Economy?
- How big are the RE&EE segments in Maine & the US?
- What are the growth prospects for the RE&EE segments?
- What criteria should we use to evaluate the need for training initiatives?

# Job Growth & the Green Economy



- Not much information available, Fall 2008
  - ✓ *ASES Study, Nov. '07*
  - ✓ *Global Insight, Oct. '08*
- Since then many states (and the BLS) have begun to
  - ✓ *Define “green economy” & address training needs*
  - ✓ *Assess growth potential*

# What is a Green Job?

- **The overarching objectives of the green economy are to promote activities that**
  - *Reduce the use of fossil fuels*
  - *Encourage the development of renewable energy resources*
  - *Reduce pollution and mitigate carbon emissions*
  - *Increase energy efficiency*
  - *Minimize the use of natural resources and*
  - *Recycle waste materials*

# Shades of Green

- **However, the greenness of economic activities and occupations is not an either/or proposition**
  - *We are dealing with a continuum, with increasing degrees of sustainability*
  - *And, many “green” activities are not without controversy*



**More than 60,000 jobs are in jeopardy.**

Be a good neighbor and keep jobs in Appalachia by signing the letter below.

**Without coal, our thriving communities will not survive.**

**FACES**  
Federation for American Coal, Energy and Security



# Renewable Energy



- Does corn ethanol require more BTUs in its production than is gained from the finished product?
- Wind is okay, but not on my mountain, or my ocean
- What about wood, hydro, or nuclear?

# Green Jobs

- **O\*NET's (Occupational Information Network) Perspective ...**

- 1. Green Increased Demand Occupations**

- *some changes in work context, but few significant changes in worker requirements*

- 2. Green Enhanced Skills Occupations**

- *significant changes in work and worker requirements occur*

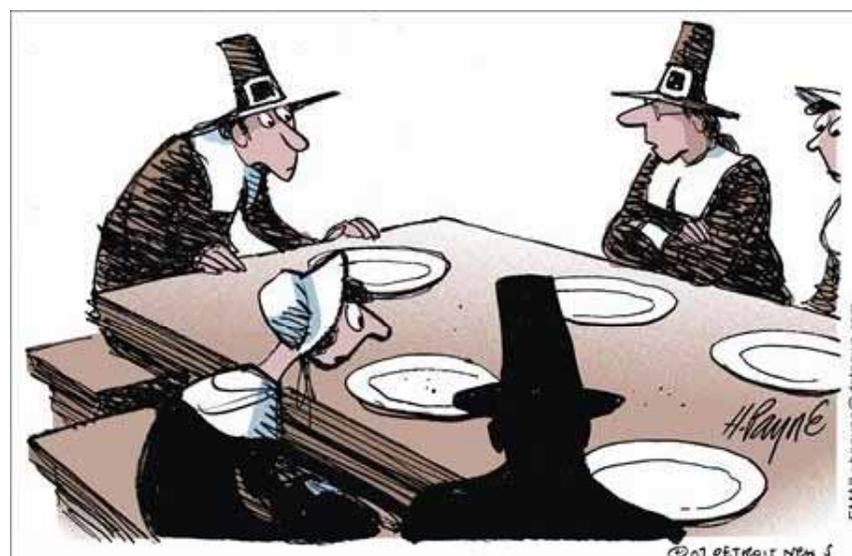
- 3. Green New & Emerging Occupations**

- *where the impact of green economy activities and technologies creates unique work and worker requirements, which results in the generation of a new occupation*

# Global Insight's Prognosis

- **Green Job Growth through 2018**

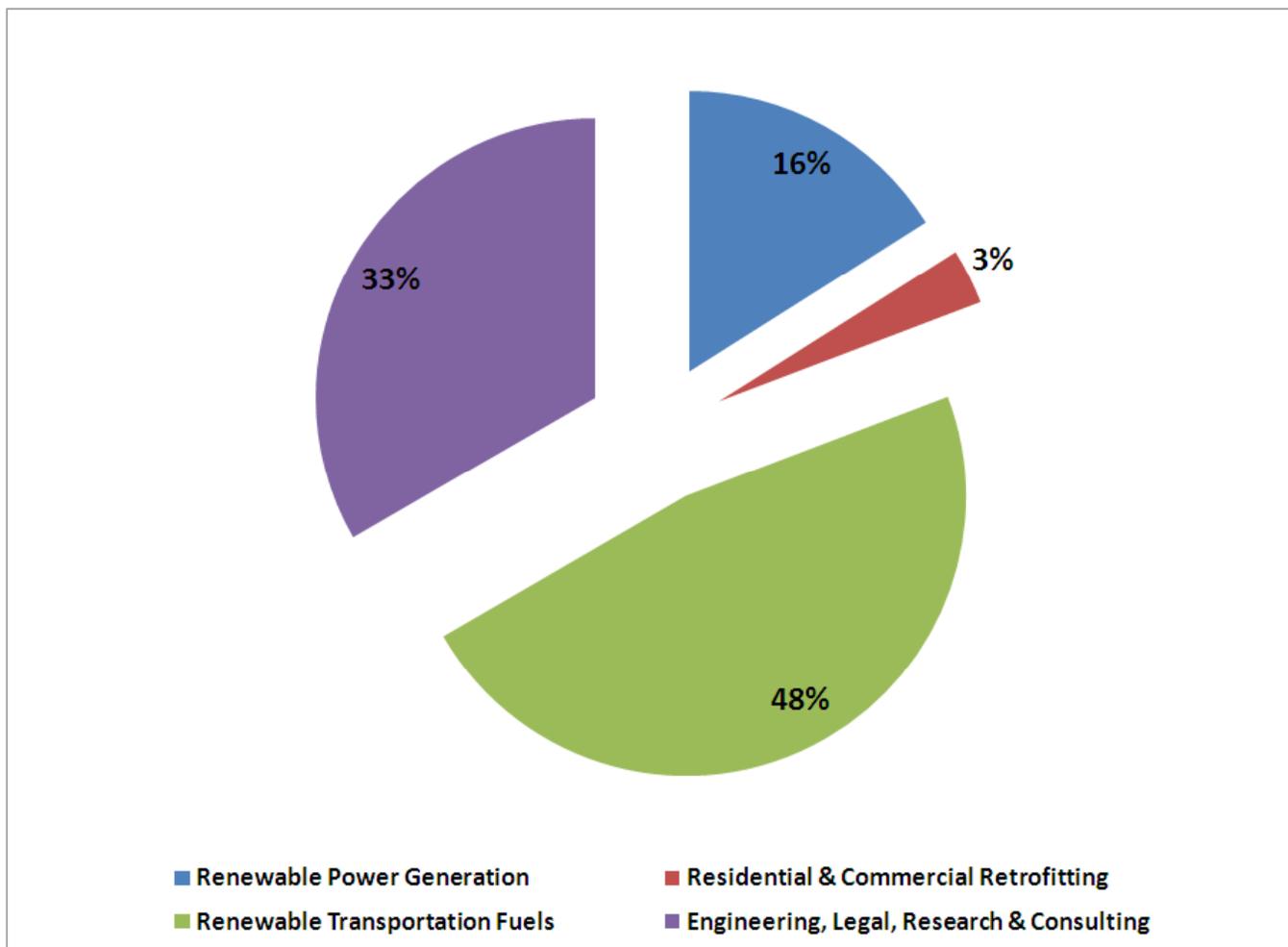
- ✓ *2.5 million jobs, up from 751 thousand in 2006, or 13% per year*
- ✓ *Growth in renewable transportation fuels will account for about half of the expected growth*
- ✓ *Only 81,000 new jobs in residential and commercial retrofitting*



*"We've gathered to give thanks for our bountiful harvest.  
But it seems all our corn crop went to ethanol production."*



# New Green Jobs by 2018



# On the Other Hand ...

- **The Pew Charitable Trusts cautions**

- *Clean energy must have a positive net energy yield, reduce greenhouse gas emissions compared with other sources of energy, and be produced and distributed in a sustainable and safe manner.*
- *Nuclear power is not included in this category because of significant, ongoing questions about how and where to safely store its waste; a system to safely dispose of nuclear waste has not been implemented anywhere in the world.*
- *Additionally, we do not include the jobs and businesses associated with the production and distribution of liquid biofuels such as corn-based ethanol in the Clean Energy category because they do not meet its requirements.*

» *The Clean Energy Economy*, June 2009, p. 12

# The Green Economy

- **Thus, there are moral and economic dimensions to green activities that need to be addressed**
  - *A BTU & social accounting framework is needed to help assess alternatives*
  - *Recent efforts in this regard*
    - *ACEEE (Ohio, Mar. '09 & Penn., Apr. '09)*
    - *The Goodman Group (Mass., Aug. '09)*
    - *Environment Northeast (N.Eng., Oct. '09)*

# Lessons Learned/Next Steps

- **Defining & counting green jobs is difficult, but we'll get better at this**
  - *Workforce Information Council, Green Jobs Study Group, Final Report, Oct. '09*
  - *Northeast Regional Consortium*
- **We need to objectively quantify what is gained & lost in our pursuit of the green economy**
  - *Moral dimension is important*