Economic Impact of the RE/EE Industry on the Connecticut Economy

Stan McMillen, Ph.D.

Department of Economic and Community Development

May 2009

DECD

CONNECTICUT CLEAN ENERGY FUND

Project Charter

- Assess the economic and fiscal impact of the renewable energy (RE) and energy efficiency (EE) industries on the Connecticut's economy
  - Identify industry groups with RE/EE business components
  - Estimate levels of RE/EE employment in identified industries
  - Estimate overall economic and fiscal impact

DECD

CONNECTICUT CLEAN ENERGY FUND

Key Outcomes

	Low Jobs Estimate	High Jobs Estimate
Direct RE/EE jobs estimate in CT (2007)	3,661	5,830
Total RE/EE related jobs in CT (2007) [Direct+Indirect+Induced]	9,663	14,767
Total RE/EE related employment as a percent of CT workforce (2007)	0.23%	0.36%
Personal income attributed to total RE/EE related jobs in CT	$0.902 billion	$1.36 billion
RE/EE related personal income as a percentage of total CT personal income	0.47%	0.71%
CT GDP impact of CT's RE/EE industry	$2.54 billion	$3.72 billion
RE/EE related GDP as proportion of CT GDP	1.17%	1.72%

Note: 1) there are 1,200 jobs in CT's fuel cell industry; most of the remainder are solar, wind, geothermal & insulation installers

DECD

CONNECTICUT CLEAN ENERGY FUND

RE/EE Industries Considered

Renewable Energy		Energy Efficiency	
Technologies	Markets	Technologies	Markets
• Fuel Cells • Solar (PV, Solar Thermal) • Wind • Geothermal • Small Hydro **(< 5MW)** • Hydrogen Generation & Storage • Biomass power • Storage batteries • Smart Grid	• Residential • Commercial & Industrial (C&I) • Utility • Independent Power Producers • Governments and Military	• High Efficiency Heating, Ventilation and Air Conditioning • Efficient Lighting • Efficient Home Appliances • Water Heating • Commercial Refrigeration • Pumps, motors and drives • Building Envelope • Demand Response • Advanced Controls	• Residential (including Low Income Weatherization) • Commercial & Industrial (C&I) • Small Business • Retail Products / Appliance Retirement • Governments and Military

DECD

CONNECTICUT CLEAN ENERGY FUND

Methodology

- Identified industry segments (characterized by NAICS codes) with RE/EE components
- Estimated the concentration of RE/EE jobs and firms within each industry segment
  - Estimated industry concentration based on expert opinion and selected industry data (e.g., fuel cell companies' employment data)
  - Correlated estimates with Navigant RE/EE firm surveys
- Estimated overall economic & fiscal impact using the Connecticut REMI model
  - Derived indirect job creation from high & low direct job estimates
  - Estimated long-term impact on key economic & fiscal performance indicators including state GDP, total jobs, personal income, total sales, & net state revenue

NAICS = North American Industrial Classification System
REMI = Regional Economic Models Incorporated

CONNECTICUT CLEAN ENERGY FUND

Next Steps

- More fully characterize RE/EE jobs, related skill requirements
- Refine our understanding of the industries in which RE/EE jobs are focused
- Estimate long-term growth in RE/EE jobs
- Estimate long-term RE/EE industry growth in CT
  - Long term potential of RE/EE in CT
  - Overall economic impact
  - Non-economic impacts (e.g., climate impact, energy security)

DECD

CONNECTICUT CLEAN ENERGY FUND