Definition of Clean Tech

Presentation to E2Tech Forum
March 13, 2013

Catherine S. Renault Innovation Policyworks, LLC
“Clean Tech is green, but not all green is Clean Tech.”
Our definition:

Clean Technology encompasses the production of a diverse range of value-added products, services, and processes with an environmental purpose or benefit.
Technologies taxonomy:

- **Renewable energy**
  - Biofuels
  - Biomass
  - Geothermal
  - Hydrokinetics
  - Solar
  - Wind

- **Energy efficiency**
  - Energy Efficiency
  - Lighting
  - Smart Buildings
  - Smart Grid

- **Transportation and alternative fuels**
  - Batteries
  - Materials
  - Vehicles

- **Advanced materials (biobased)**
  - Bio-based Plastics
  - Green Chemistry
  - Nanomaterials

- **Environmental services**
  - Environmental Protection, Pollution Prevention
  - Environmental Remediation
  - Recycling and waste management, treatment
How definition links to sector:

Suppliers

Workforce, Education, Research And Development Assets

Clean Tech Companies

Institutional Assets And Service Sector

Sales Channels
Describing the Clean Technology Sector in Maine:

Preliminary Results from Sector Survey

Presentation to E2Tech Forum
February 28, 2012

Caroline L. Noblet
University of Maine
You are important!

**Get Involved**

www.tinyurl.com/MaineCleanTech
Who are we? Maine’s Clean Tech Sector: Some Basics

Old or New?
- 48% of respondents: established since 2000
- 70% of respondents: established since 1990
- 15% of respondents: established before 1980

Ownership and Structure?
- 48% private corporation
- 73% single establishment firm

Small or Large?
- 63% employ 5 or fewer full time employees
What do we do? Maine’s Strengths: Respondent Primary Areas

- Renewable Energy: 24%
- Energy Efficiency: 16%
- Transportation and Alternative Fuels (biobased): 20%
- Advanced Materials: 35%
- Environmental Services: 3%
- Other/ Not applicable: 2%
What do we do? Maine’s Strengths: Respondent Secondary* Areas

- Renewable Energy: 24 (Primary), 37 (Secondary)
- Energy Efficiency: 16 (Primary), 23 (Secondary)
- Transportation and Alternative Fuels: 3 (Primary), 11 (Secondary)
- Advanced Materials (biobased): 2 (Primary), 9 (Secondary)
- Environmental Services: 35 (Primary), 39 (Secondary)

Legend:
- Blue: Primary Sector
- Green: Secondary Sector
What are we hearing? Business climate issues……

Perception that nothing ‘great’ can happen in Maine

- lag in support for innovation
- lack of Angel Investors/Funding
- Inconsistent or limited support from State

Geography & Isolation – cost of transportation & travel; distance to market
What are we hearing….. needs for the future growth of the industry

Market and advocate with a strong, consistent and collaborative voice

- Market as a cluster (when possible)
- Advocate for reaffirming existing funding commitments (ex: R&D Bond funding; FAME Seed Tax Credit; Efficiency Maine)
- Advocate for policy & travel changes
What are we hearing….. needs for the future growth of the industry

Create Own Opportunities; Be Proactive

- Venture Capital ‘Marketplace’: incubate and fund new ideas; target post -seed funding entities

Improved connections/collaborations

- Attract/share workers
- R&D with other firms, University, Community Colleges
Where do we go from here?

(1) We’d like to hear from you! www.tinyurl.com/Mainecleantech

(2) What collaborations and support is the Maine Clean Tech sector involved in or receiving?

(3) Who (what skill sets & educational level) is being employed? Where are these workers coming from?

(4) Contribution to the Maine economy

(5) What does the future look like? What are Clean Tech firms’ next steps?
Environmental and Energy Technology Sector: Updated Economic Impact and Recent Growth

Presentation to E2Tech Forum
February 28, 2012

Todd Gabe University of Maine
“Clean Tech is green, but not all green is Clean Tech.”
2007 E2Tech study:

⇒ Sector supported 9,650 jobs and $330.9 million in labor income

⇒ 14\textsuperscript{th} nationally in % of state’s businesses in environmental and energy technology sector

⇒ 6\textsuperscript{th} largest employer (and earnings provider) among 11 “comparison” industries
Recent growth: employment

⇒ 3.2% increase in environmental and energy technology sector, 2004 to 2010

⇒ 2.7% decline in overall Maine employment
Recent growth: earnings

⇒ 27.6% increase in environmental and energy technology sector, 2004 to 2010

⇒ 11.9% increase in overall Maine payroll
### Updated economic impact

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<th>Direct</th>
<th>Multiplier Effects</th>
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<tr>
<td>Output</td>
<td>$847.5 mil</td>
<td>$573.9 mil</td>
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<td>Employment</td>
<td>5,437</td>
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<td>Labor Income</td>
<td>$284.3 mil</td>
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Sector as a % of Maine businesses:

⇒ 1.21% in 2007 study (14th nationally)

⇒ 1.23% in current study (24th nationally)

⇒ Sector grew in importance to the overall economy more in other states than in Maine
Sector compared to other industries in Maine: employment

⇒ Sector ranks 4th behind lodging, paper manufacturing, and food manufacturing (sector moved ahead of wood product manufacturing and forestry/logging)
Sector compared to other industries in Maine: earnings

⇒ Sector ranks 4th behind paper manufacturing, fabricated metal product manufacturing, and lodging (sector moved ahead of wood product manufacturing and food manufacturing)
Summary:

⇒ Growth of environmental and energy technology sector outpaced Maine economy

⇒ Sector’s importance to the overall economy grew faster in other states than in Maine

⇒ Sector improved its standing relative to other key Maine industries