



North Carolina Renewable Energy & Energy Efficiency Industries Census

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Mission:

To ensure a sustainable future by promoting renewable energy and energy efficiency in North Carolina through public policy, education, and economic development.

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INTRODUCTION

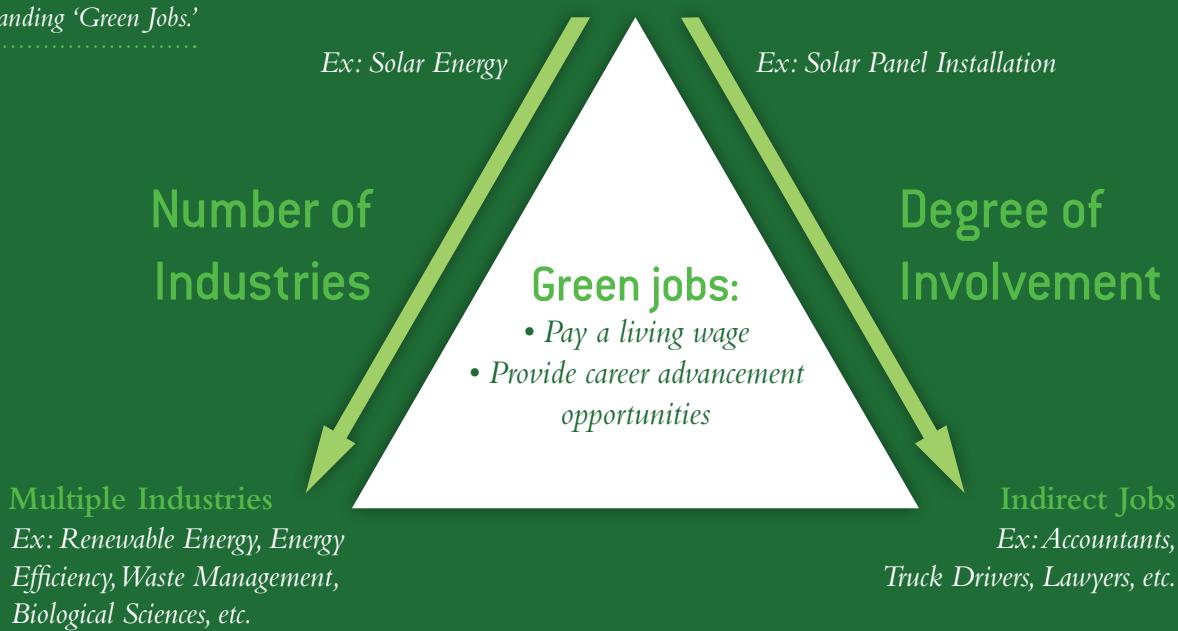
In the last year, several national studies have calculated and explored the benefits of “green jobs.” Despite the continued use of the term, many still wonder – what is a green job?

The answer to the question is contextual and depends on two underlying criteria. The first criterion is the number of industries being considered. The term may refer to a single specific industry, such as solar energy, or multiple industries that impact the energy, efficiency, and environment in some positive fashion. The second criterion is the degree of employee involvement within the defined industries. This can range from direct involvement, such as the manufacturing of solar panels, or more indirect involvement, such as the transport of the panels from the manufacturer to the installation site.

The importance of these elements are illustrated in Exhibit 1, which shows the two criteria on a spectrum: number of industries (left side) and degree of involvement measured (right side). The area near the top of the triangle illustrates a narrow definition of “green jobs” that only accounts for direct jobs in a single industry. A move down one or both of the spectrums results in a greater area being covered and a larger number of jobs become classified as “green jobs.” The broadest definition would encompass the entire pyramid and include all direct and indirect jobs that have a net positive impact on the environment.

continued on next page >>

Exhibit 1.
Understanding ‘Green Jobs.’



Most national studies employ a broad definition of green jobs by incorporating industries related to environmental services. This report is narrower in scope, focused on renewable energy and energy efficiency industries. Further, this report primarily focuses on the industries contributing to electric generation and does not fully explore firms involved in biofuels and transportation issues. This distinction is important because it accounts for the different employment estimates produced by national studies.

Once these differences are considered, this report produces state level employment estimates that are comparable to national studies, such as the Pew Charitable Trust's 2009 report *The Clean Energy Economy*.¹



ABOUT THIS REPORT

The North Carolina Sustainable Energy Association (NCSEA) conducts an annual statewide survey of firms operating in the renewable energy and energy efficiency industries. This survey presents a snapshot of the direct and indirect jobs associated with the renewable and energy efficiencies industries, and provides a topical analysis of industry dynamics and the core competencies of companies operating in this marketplace. The survey also examines time specific questions of policies and initiatives impacting the growth of the renewable energy and energy efficiency industries.

This report represents key findings from NCSEA's second annual industries census. During the summer of 2009, NCSEA surveyed 1,136 firms identified as potentially conducting renewable energy and energy efficiency activities in North Carolina. These firms largely represent businesses, but several state agencies, education outfits, and non-profits are also included. Firms were asked only about North Carolina business units, and results are specific to North Carolina only.

To participate in the research, firms had to meet at least one of the following criteria:

- Allocate at least 50% of staff time to work related to renewable energy or energy efficiency;
- Generate at least 50% of revenue from work related to renewable energy or energy efficiency; or

- Generate at least \$25,000 in economic gain (revenue, avoided costs, etc.) from work directly related to renewable energy or energy efficiency.

NCSEA distributed the survey questions (see [Appendix A](#)) primarily via the internet, but responses were also collected by postal service and over the phone. NCSEA received data from 548 firms while another 110 firms indicated they do not meet at least one of the qualifying criteria. Since respondents did not answer every question, the sample size for each analysis is listed in the report. For example, "n=530" indicates 530 firms provided data used in the analysis.

This report classifies firms within the following business types:

- Research and development
- Manufacturing
- High performance building and retrofits – includes architects and home builders
- Renewable energy system retailer or distributor
- Renewable energy system installer, designer, or installer
- Power generation facility owner or operator
- Education, services, or consulting – includes law, engineering, and finance services

This report classifies firms within the following business focus areas:

- Biomass
- Energy efficiency – includes building science
- Energy storage – includes fuel cells

¹ The Pew Charitable Trusts. *The Clean Energy Economy: Repowering Jobs, Businesses, and Investments Across America*. June 2009. http://www.pewcenteronthestates.org/uploadedFiles/Clean_Economy_Report_Web.pdf

- Hydroelectric
- Smart grid
- Solar – includes electric and thermal
- Wind

Respondents were permitted to rank the three most important business types and focus. However, within this report, firms are categorized by their **most important** business type or focus. For example, a firm ranking research and development and manufacturing as the first and second most important business types would be classified as a “research and development firm” throughout the report. NCSEA takes this approach because the data does not provide sufficient detail to allocate a firm’s activities and employment more specifically across each business’ types and focuses.

Finally, it is important to note data is self-reported by participating firms. In the event a firm answered the survey multiple times, NCSEA either used the most complete entry, the entry from the more senior staff member, or merged the entries together where appropriate. All findings and analysis are presented in aggregate to protect the confidentiality of respondents.

EMPLOYMENT TRENDS

The renewable energy and energy efficiency industries currently support 10,250 full-time equivalent employees (FTEs) in North Carolina.²

The renewable energy and energy efficiency industries capture a wide range of potential labor positions across the entire industry supply chain. The employment spectrum includes such positions as engineers at research and development firms, technicians at manufacturing facilities, skilled trades involved in the building industry, installers of renewable energy technologies, and professionals providing legal and accounting services. Employment could be defined as careers that apply the principles of science, engineering, communications, economics, management, and/or law to optimize the sustainable production, delivery, and/or use of renewable energy and energy efficiency resources.³

Accounting for this complexity and scope in labor positions, NCSEA estimates the renewable energy and energy efficiency industries currently support 10,250 full-time jobs in North Carolina. NCSEA proportionally weighted the industry estimate to reflect

the distribution of reported jobs across the business types identified as “most important” by respondents (n=530). In addition to weighting by business type, the estimate is reduced by a proportional percentage of firms responding they do not meet any of the criteria of the census (n=110).

Manufacturing firms support the greatest percentage of employees; high performance building and retrofit firms rank a close second.

Firms completing the employment portion of the census (n=519) support a total of 5,624 jobs (see **Exhibit 2**). Manufacturing firms support nearly one quarter of the reported jobs. Consistent with the 2008 industries census, most of the manufacturing firms in North Carolina continue to produce components – rather than end units – for the renewable energy and energy efficiency industries.⁴ Moreover, the state maintains considerable potential to manufacture renewable energy components. Research from the University of North Carolina at Greensboro found over 1,300 firms employing just over 61,000 workers with the potential to manufacture components for the solar, wind, biomass, and geothermal industries.⁵

A key element to the robust employment among manufacturing firms is the average number of reported jobs. Despite their limited presence, reporting manufacturers support an average of 36 employees per firm – the highest average among any business type considered. Further, manufacturers identify energy efficiency and solar power as the most important business focuses, at 40% and 26% of respondents respectively (n=35).

It is important to explain the apparent shift in manufacturing employment between the 2008 and 2009 industries census. In 2008, NCSEA reported over 70%

2 A full-time equivalent employee is a measure equal to the work of one full-time employee. The work of two half-time employees would be equal to one full time equivalent. The total number of full-time equivalents for a firm was calculated by multiplying the total number employees by the percent of staff time dedicated to activities related the renewable energy and energy efficiency. Throughout the remainder of this report, the term “job” or “employee” will be used to refer to a full-time equivalent job or employee.

3 Definition adapted from: Advanced Technology Environment and Energy Center. Defining Energy Technologies and Services. Bettendorf, IA. 2008. Link: <http://www.atec.org/store/catalog/Defining-Energy-Technologies-and-Services-report-164.html>

4 Appalachian State University Energy Center. Developer’s Guide to Renewable Energy Industries. Volume 3. Boone, NC. Spring 2009. Link: http://www.energy.appstate.edu/docs/devguide_v3.pdf

5 Debbage, Keith. Renewable Energy in North Carolina: The Potential Supply Chain. Prepared for the Institute of Emerging Issues. August 2008. Link: <http://www.ncsu.edu/iei/programs/energy-environment/documents/debbage-report.pdf>

Exhibit 2. Reported jobs by most important type of business ($n=519$), 2009.

Most Important Type of Business	# Responding Firms	% Responding Firms	# Reported Jobs	Avg. Reported Jobs	% Reported Jobs
Research and development	38	7%	985	25.9	18%
Manufacturing	36	7%	1,287	35.8	23%
High performance building or retrofits	205	39%	1,150	5.6	20%
Renewables retailer or distributor	32	6%	193	6.0	3%
Renewables installer, designer, or developer	91	18%	766	8.4	14%
Power generation facility owner or operator	26	5%	373	14.3	7%
Education, services and consulting	91	18%	870	9.6	15%
TOTAL	519	100%	5,624	10.8	100%

of the jobs occurred in firms involved with manufacturing. This year, census questions were revised in an effort to condense and prioritize the number of business types a firm could select to allow deeper analysis of trends. As a result of this methodological change, manufacturing now accounts for a smaller percentage of the employment relative to prior results, but the importance of manufacturing as a prominent source of employment remains unchanged.

The second greatest percentage of employment is in high performance building and retrofit, accounting for 20% of reported jobs. In contrast to manufacturers, these firms account for 39% of the responding firms, but average less than six employees per firm – the lowest number of any business type considered. Not surprisingly, 85% of high performance building or retrofit respondents identify energy efficiency as the most important business focus ($n=204$). For high performance building or retrofit firms identifying a second most important business focus, 60% of these respondents chose solar power ($n=93$).

In descending order, a sizeable portion of the reported employment also originates from (1) research and development firms at 18%, (2) education, services, and consulting firms at 15%, and (3) renewable energy installers, designers or developers at 14%. Within each business type, a majority of firms identify energy efficiency or solar energy as the most important business focuses. Education, service and consulting firms displayed the strongest preference towards energy efficiency, with 56% of respondents choosing this focus as most important ($n=90$). Conversely, renewable energy installers, designers, and developers favored solar

power, with 47% of respondents choosing this focus as most important ($n=90$).

Employment can be examined across business focus – as opposed to business type. This analysis reveals energy efficiency firms support 50% of the reported jobs.⁶ Renewable energy firms support an additional 43% of the reported jobs, followed by energy storage firms supporting 4% and smart grid firms supporting 3% of the reported jobs.

Employment among responding firms grew 6% since July 2008 and 36% job growth is expected in next 12 months; manufacturing and high performance building and retrofit firms experienced net employment loss since July 2008.

Through the prolonged economic downturn and tight credit markets, employment in the renewable energy and energy efficiency industries increased 6% since July 2008 ($n=508$). This signals the resilience of the renewable energy and energy efficiency industries, especially when considering more than 200,000 jobs – or roughly 5% – of North Carolina jobs were lost from July 2008 to July 2009.⁷

⁶ Entries identifying geothermal as the most important focus are classified as energy efficiency for the purpose of this report.

⁷ Employment Security Commission of North Carolina. State's Unemployment Rate Unchanged at 11 Percent in July. News Release. 21 August 2009.

Exhibit 3. Net job change by most important type of business (n=508), 2009.

Most Important Type of Business	# Reported Jobs	Net Job Change Over Past 12 Mos.	% Growth Over Past 12 Mos.	Net Job Change Over Next 12 Mos.	% Growth Over Next 12 Mos.
Research and development	980	113	13%	221	23%
Manufacturing	1,285	-281	-18%	148	12%
High performance building or retrofits	1,145	-21	-2%	299	26%
Renewables retailer or distributor	193	47	32%	353	183%
Renewables installer, designer, or developer	756	163	27%	523	69%
Power generation facility owner or operator	295	55	23%	62	21%
Education, services and consulting	865	216	33%	396	46%
TOTAL	5,519	292	6%	2,002	36%

Despite the overall employment growth, significant variation is evident among individual business types surveyed (see [Exhibit 3](#)). Consistent with state-level trends, manufacturing firms were impacted particularly hard, reporting an 18% reduction in employment levels. The findings also indicate manufacturers anticipate they will recover just half of the lost jobs over the coming 12 months. Conversely, the only other business type to experience employment decline since July 2008 – high performance building and retrofit – anticipates 26% growth in the next year.

Over half of reporting firms anticipate new hiring needs in the next 12 months. In aggregate, if current expectations are met, North Carolina will produce a 36% increase in employment related to renewable energy and energy efficiency among reporting firms. Extrapolating to include non-respondents, these growth expectations would produce over 3,500 new jobs in North Carolina in the next year. Renewable energy installers, designers, and developers anticipate the greatest growth, in absolute terms, accounting for one-quarter of anticipated new jobs.



DEMOGRAPHIC TRENDS

Despite the small size and young age of most firms, the renewable energy and energy efficiency industries generate more

than \$3.5 billion in annual revenue related to North Carolina activities.

The majority of firms in the renewable energy and energy efficiency industries are small and relatively new to the industry. Over 70% of the firms providing employment data maintain a total staff of ten or fewer employees. Collectively, these firms account for 19% of the employment related to renewable energy and energy efficiency activities. The bulk of the renewable energy and energy efficiency employment comes from the largest firms. For example, firms that employ a total staff of greater than 100 employees – which accounts for just 6% of respondents – employ nearly one-third of the renewable energy and energy efficiency workers (n=525).

Looking at the longevity of responding firms, two-thirds report their renewable energy and energy efficiency activities began in 2000 or later (n=533). A majority of these firms entered the industry over the last three years (see [Exhibit 4](#)). Thirty-nine percent of responding firms were not originally active in energy efficiency or renewable energy business, but instead transitioned or expanded into this type of business activity after their inception. This represents a small increase over last year's census results in the portion of transitioning firms.

The renewable energy and energy efficiency industries generate considerable revenue. NCSEA estimates more than \$3.5 billion is generated annually from renewable energy and energy efficiency activities in North

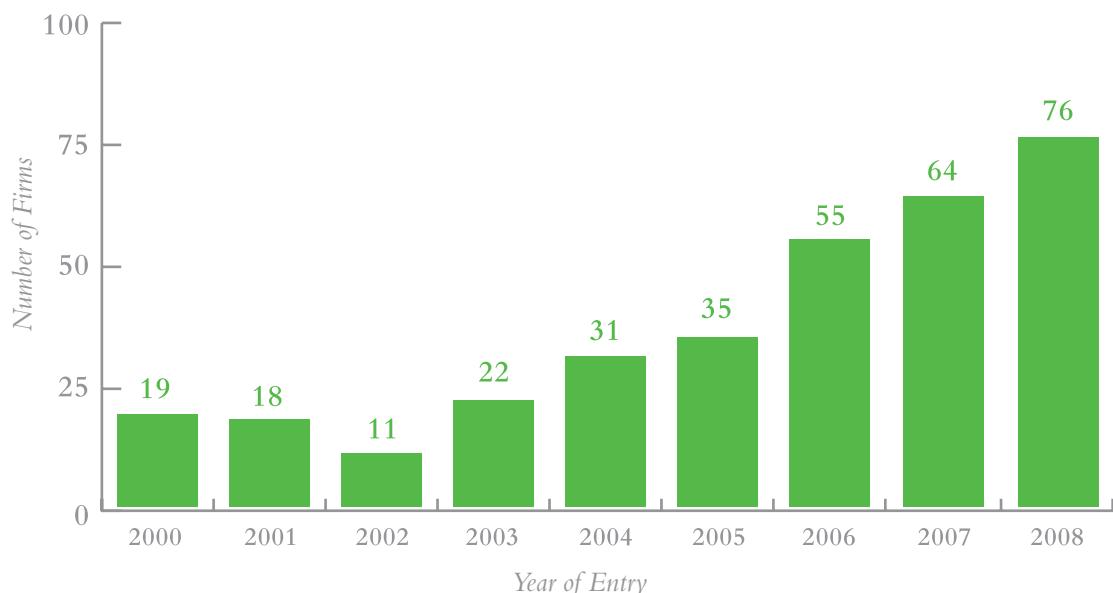


Exhibit 4.
Recent entry of
renewable energy
and energy
efficiency firms
(n=346), 2009.

Carolina (n=421). This figure is based on a moderate estimate of the average annual revenue reported from responding firms. NCSEA applied this average to non-respondents, not including a proportional percentage of firms that reported they do not meet any of the census criteria (n=110).

The majority of products and services are intended for markets within North Carolina or the United States; significant variation exists among business types.

The industries census collected information pertaining to the final destination of products and services provided by renewable energy and energy efficiency firms. Over 70% of firms report North Carolina as the final destination for the majority of their products and services (n=519). This strong dependence on the North Carolina market highlights the importance of sustaining and developing local markets.

High performance and building retrofit firms are the most dependent on the North Carolina market with 90% of these firms reporting this state as the destination for the majority of their products and services. Manufacturers are least dependent on the state, reporting 50% of their products and services proceed to destinations throughout the United States. Among all respondents, just 2% of firms report markets outside the United States as the final destination for the majority of their products and services.

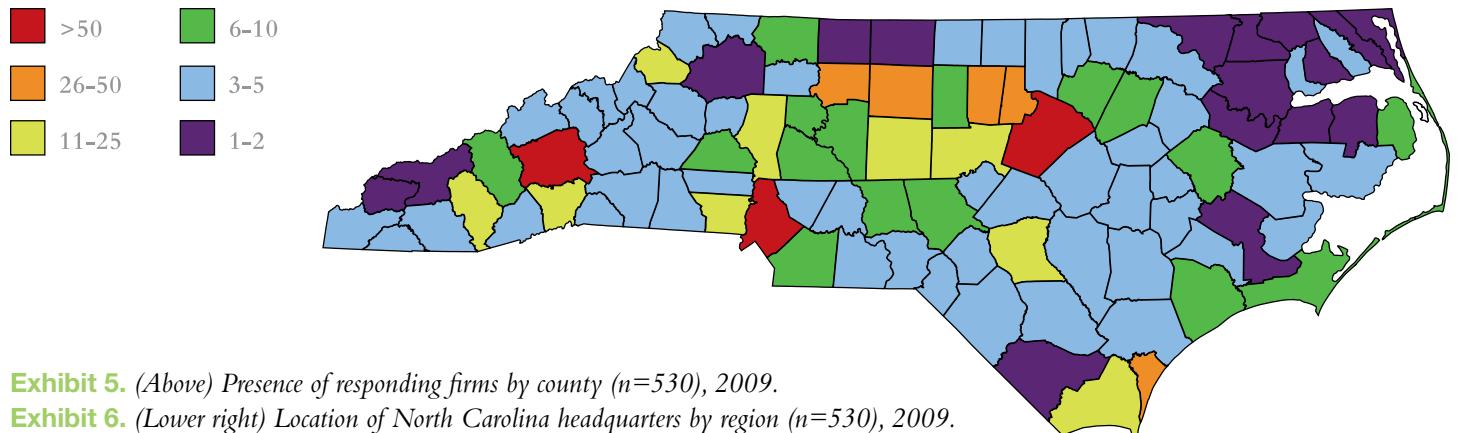
Renewable energy and energy efficiency firms maintain a presence across all 100 counties; Research Triangle region emerging as largest hub for headquarters.

To understand the geographic dynamics, respondents were asked to identify the North Carolina counties where they maintain a presence, which is defined as a headquarters, satellite office, manufacturing facility, or remotely located employees. As seen in **Exhibit 5**, firms report a presence in all 100 North Carolina counties (n=530), up from a presence in just 64 counties in 2008 (n=168). This dramatic rise is attributed to market growth – expansion of existing firms and the entry of new firms – as well as the tripling of the sampling size.

Buncombe, Mecklenburg and Wake Counties – which contain the cities of Asheville, Charlotte, and Raleigh respectively – remain the dominant hubs. However, Wake County displays the strongest activity with 141 firms reporting a presence. Mecklenburg ranks second with 99 firms and Buncombe County ranks third with 57 firms. Secondary hubs appear in Forsyth, Guilford, and New Hanover Counties, which contain Winston-Salem, Greensboro, and Wilmington respectively.

A similar trend is evident among the dispersion of firm headquarters (**Exhibit 6**). The Research Triangle region supports 36% of the reporting firms' headquarters. The remaining headquarters are located in the Charlotte Region (22%), Advantage West (18%), Piedmont Triad (12%), Southeast Region (6%), Eastern Region (3%), and Northeast Region (2%).

The renewable energy and energy efficiency industries appear least established in the Northeast Region of North Carolina. This region maintains the fewest headquarters and the smallest presence of firms. Regardless, in the past year all but three counties in this region experienced a growth in the number of firms present. On-going initiatives in this region present an opportunity to encourage entrepreneurship and further increase the presence of firms.



As noted last year, the geographic distributions reported do not reflect the number of reported employees per county or region. Many firms maintain multiple offices or manufacturing facilities across the state. Census questions do not request the number of people employed by a respondent at the county or regional level. Therefore, the data does not allow for the accurate allocation of reported jobs, only the firm's presence at this level.



BUSINESS CLIMATE

Firms identify access to finance and state regulatory structure as the most important factors for business in North Carolina.

The industries census collected information pertaining to the business climate in North Carolina. In one question, firms were asked to describe the importance of each of a variety of assets for business in North Carolina (see [Exhibit 7 on following page](#)). Roughly three-quarters of responding firms consider access to finance and North Carolina's state regulatory structure as "very important" or "important" to their business activities ($n=513$). This trend is largely consistent across all business types and focuses, except for energy storage firms who place less importance on state regulatory structure.

Many firms are unaware of recent state energy reforms and the associated programs and funding; two-thirds of the firms that are aware of the reforms express interest in the associated programs and funding opportunities.

Economic Partnership Region	# of Firms
Research Triangle	192
Charlotte	116
Advantage West	96
Piedmont Triad	66
Southeast Region	34
Eastern Region	14
Northeast Region	12

In May 2009, Governor Beverly Perdue announced a series of energy reforms intended to refocus state energy policymaking, make new strategic investments in North Carolina's green economy, and enhance "green" workforce development. Specific reforms, which were passed by the General Assembly, include:

- Relocation of the State Energy Office and state weatherization program in the North Carolina Department of Commerce and appoint an Assistant Secretary to Energy.
- Reinvigoration of the Energy Policy Council in order to create a comprehensive energy policy that will drive green job creation, at least in part through the use of renewable energy and energy efficiency solutions.
- Establishment of an Energy Investment Revolving Loan Fund utilizing \$18 million from federal recovery funds to finance energy-savings projects.
- Expansion of the NC Green Business Fund – a competitive grant program for environmentally friendly businesses – utilizing \$10 million in federal recovery funds.
- Development of a program within the JobsNOW initiative to provide green economy job training

Exhibit 7. Importance of assets for business in North Carolina (n=513), 2009.

	Percent of Responses				
	Very Important	Important	Neutral	Not Important	Not Applicable
Access to finance	52%	23%	14%	5%	5%
State regulatory structure	35%	39%	17%	6%	3%
Local permitting and siting	28%	38%	21%	7%	5%
Recruitment potential & workforce availability	19%	39%	26%	12%	4%
Non-financial business assistance provided by state	10%	28%	33%	19%	10%

Note: Percentage may not sum to 100 due to rounding.

through universities, community colleges, and workforce agencies.

- Investment of federal recovery funds in other energy efficiency and renewable energy projects, targeting small businesses, communities and homes across North Carolina.

When questioned about these reforms and associated programs and funding opportunities, 46% of the responding firms were unaware of their existence (n=519). This trend was most prevalent among high performance building and retrofit firms – 57% of these respondents were unaware of these reforms.

Where firms reported knowledge of these reforms, approximately two-thirds of the firms express interest in pursuing the associated programs and funding opportunities.

North Carolina community colleges resources are used by one-quarter of responding firms.

One-quarter of respondents, dispersed across all business types and focuses, report using services or resources provided by North Carolina's community colleges (n=519).⁸ A notable number of firms cited the use of small business resources, such as the Small Business Center Network which has an office located at each of the 58 community college campuses across the state. Other respondents specified they recruit and hire interns and graduates from community college programs. Finally, several firms commented they use resources for staff training or, more broadly, to attend seminars, workshops, or classes.



CONCLUSION

This report demonstrates that the renewable energy and energy efficiency industries are expanding and increasingly resilient in North Carolina. Across the entire supply chain, these firms employ 10,250 workers, maintain a presence in all 100 North Carolina counties, and generate more than \$3.5 billion in annual revenue.

One of the most important themes found throughout this report is the economic impact of manufacturing firms. Manufacturers support the greatest percentage of reported employees and the highest average number of employees. The industries census reveals these firms are the most impacted by the economic downturn and face the dimmest growth prospects. Despite these firms being significantly tied to North Carolina markets, these firms lack the policy support available to other segments of the supply chain. Therefore, North Carolina decision makers should determine the desired role of manufacturers in the future growth of these industries and consider corresponding policy changes.

A second important theme is the importance of and need for greater education of firms in North Carolina. The industries census finds the majority of firms are focused on North Carolina markets and stress the importance of the state regulatory structure. It can be concluded from this data that shifts in the state market - through regulatory or policy changes - will have significant impact on the firms active in these industries. This is partially explained by a high number of firms - 46% - stating they were unaware of state energy reforms announced in early 2009. Government and all stakeholders interested in the future growth of renewable energy and energy efficiency industries need to consider additional communication strategies for informing and growing the renewable energy and energy efficiency industries in our state.

⁸ A small number of respondents noted other state-sponsored institutions in the open-ended follow-up question. When tabulating responses, it was assumed these firms also access community college resources.

APPENDIX A: SURVEY QUESTIONS

1. Prior to starting the survey, please verify that your company or organization meets AT LEAST one of the following criteria:

A. At least 50% of company or organization staff time is dedicated to work related to renewable energy or energy efficiency.

B. At least 50% of company or organization revenue comes from work related to renewable energy or energy efficiency.

C. Your company or organization generates at least \$25,000 in economic gain (revenue, avoided costs, etc.) from work directly related to renewable energy or energy efficiency.

Yes, my company or organization meets *at least* one of these criteria.

No, my company or organization *does not* meet any of these criteria.

2. What is your company or organization's name and website?

Company Name:

Website:

3. What is your contact information?

First Name:

Last Name:

Job Title:

Address:

City:

State:

Zip Code:

4. If your company or organization's primary North Carolina address differs from the response in Question 3, please include your company or organization's primary North Carolina address.

Primary address refers to company's NC headquarters, or the location of the NC-based management team.

Primary NC Address:

City:

County:

Zip Code:

5. Is your company or organization's headquarters located in North Carolina?

Yes No

6. Does your company or organization have more than one location in North Carolina?

Yes No

6a. If yes, please list any North Carolina counties where company or organization has a presence (satellite office, manufacturing facility, remote employees, etc.).

7. In what year was your company or organization:

A. Originally founded:

B. First operating in North Carolina:

C. First operating in renewable energy or energy efficiency activities:

8. Please select by order of importance up to three business types your company or organization is currently operating in. (#1 = most important, #2 = second most important, #3 = third most important)

#1 #2 #3

Research and Development:		
Manufacturing:		
Architect / Construction / Home Builder / Building Retrofits:		
Renewable energy systems installer, designer, or developer:		
Renewable energy systems retailer or distributor:		
Power generation facility owner or operator:		
Education, Services and Consulting (law, engineering, finance, etc.):		

9. Please select by order of importance up to three business focuses your company or organization is currently operating in. (#1 = most important, #2 = second most important, #3 = third most important)

#1 #2 #3

Solar		
Wind		
Biomass		
Hydroelectric		
Smart Grid		
Energy Efficiency / Building Sciences		
Energy Storage, including fuel cells		

10. In the past 12 months what was the final destination of the majority of your company or organization's renewable energy or energy efficiency products or services?

- The majority was within North Carolina
- The majority was within North Carolina border states (SC, TN, VA, or GA)
- The majority was within the United States
- The majority was outside the United States

11. Please estimate your company or organization's current total North Carolina employment:

Please estimate based on full-time equivalent staff time (for example, two employees working half-time equals one full-time equivalent).

Number: _____

12. Please estimate what percent (%) of your North Carolina staff time is dedicated to work within the renewable energy or energy efficiency marketplace:

Percent: _____

13. Please estimate how many North Carolina full-time equivalent staff members working on renewable energy or energy efficiency your company or organization has:

Hired in the past 12 months: _____

Laid off in the past 12 months: _____

14. Please estimate how many North Carolina full-time equivalent staff members working on renewable energy or energy efficiency your company or organization:

Anticipates hiring in the next 12 months: _____

Anticipates laying off in the next 12 months: _____

15. What was your total North Carolina annual revenue in the most recently concluded fiscal year? Please estimate if you do not know the exact number.

- Less than \$100,000
- \$100,000 but less than \$500,000
- \$500,000 but less than \$1 million
- \$1 million but less than \$10 million
- \$10 million but less than \$25 million
- \$25 million but less than \$100 million
- \$100 million or more
- Prefer not to answer
- Do not know

16. What percent of your firm's annual North Carolina revenue was attributable to the renewable energy or energy efficiency industry in the most recently concluded fiscal year?

- Less than 10%
- 10% to 25%
- 26% to 50%
- 51% to 75%
- 76% to 99%
- 100%
- Prefer not to respond.

17. Please check the box that best describes the importance of each asset for your company or organization's

North Carolina business (++ very important • + important • 0 neutral • - not important • N/A not applicable):

++ + 0 - N/A

Access to finance	++	+	0	-	N/A
State regulatory structure					
Local permitting and siting					
Recruitment potential and workforce availability					
Non-financial business assistance provided by state					

18. Does your company or organization use any North Carolina Community College resources (staff training, business incubation, small business center, etc.)?

Yes No

If "Yes", please describe any resources used and your experience using the resource:

19. In May 2009, Governor Perdue announced an energy reform package for North Carolina. Which of the following best describes your company's plans for this package and its associated programs, including stimulus funding?

- I am aware of the package and plan to use the new programs or stimulus funding.
- I am aware of the package but do not plan to use the new programs or stimulus funding.
- I was not aware of the existence of the package, programs, or stimulus funding.

20. What does your company or organization perceive as the primary barrier to the energy efficiency and renewable energy industry in North Carolina?

Primary barrier: _____

21. If you know them, please indicate your company or organization's primary 6 digit NAICS codes:

NAICS: _____

22. Would you like to be notified when a summary report of this survey is completed and receive future communication from NCSEA?

- Yes, please notify me when a summary report is posted and NCSEA may contact me about other initiatives, business events, and news.
- Please notify me when a summary report is available online, but I would prefer not to receive further communications from NCSEA.
- No, please do not contact me until the 2010 census.

23. Participant suggestions, concerns, and general industry observations from the 2008 survey were instrumental in improving our existing questions and formulating new questions for 2009. If you are willing we would appreciate any feedback about the survey or the renewable energy and energy efficiency industries that you are willing to share.

APPENDIX B – COUNTY DESIGNATIONS

County	Partnership Region	Geographic Region	County	Partnership Region	Geographic Region
Alamance	Piedmont Triad	Piedmont	Johnston	Research Triangle	Piedmont
Alexander	Charlotte	Piedmont	Jones	Eastern Region	Coast
Alleghany	Advantage West	Mountain	Lee	Research Triangle	Piedmont
Anson	Charlotte	Piedmont	Lenoir	Eastern Region	Coast
Ashe	Advantage West	Mountain	Lincoln	Charlotte	Piedmont
Avery	Advantage West	Mountain	Macon	Advantage West	Mountain
Beaufort	Northeast	Coast	Madison	Advantage West	Mountain
Bertie	Northeast	Coast	Martin	Northeast	Coast
Bladen	Southeast	Coast	McDowell	Advantage West	Mountain
Brunswick	Southeast	Coast	Mecklenburg	Charlotte	Piedmont
Buncombe	Advantage West	Mountain	Mitchell	Advantage West	Mountain
Burke	Advantage West	Mountain	Montgomery	Piedmont Triad	Piedmont
Cabarrus	Charlotte	Piedmont	Moore	Research Triangle	Piedmont
Caldwell	Advantage West	Mountain	Nash	Eastern Region	Coast
Camden	Northeast	Coast	New Hanover	Southeast	Coast
Carteret	Eastern Region	Coast	Northampton	Northeast	Coast
Caswell	Piedmont Triad	Piedmont	Onslow	Eastern Region	Coast
Catawba	Charlotte	Piedmont	Orange	Research Triangle	Piedmont
Chatham	Research Triangle	Piedmont	Pamlico	Eastern Region	Coast
Cherokee	Advantage West	Mountain	Pasquotank	Northeast	Coast
Chowan	Northeast	Coast	Pender	Southeast	Coast
Clay	Advantage West	Mountain	Perquimans	Northeast	Coast
Cleveland	Charlotte	Piedmont	Person	Research Triangle	Piedmont
Columbus	Southeast	Coast	Pitt	Eastern Region	Coast
Craven	Eastern Region	Coast	Polk	Advantage West	Mountain
Cumberland	Southeast	Coast	Randolph	Piedmont Triad	Piedmont
Currituck	Northeast	Coast	Richmond	Southeast	Coast
Dare	Northeast	Coast	Robeson	Southeast	Coast
Davidson	Piedmont Triad	Piedmont	Rockingham	Piedmont Triad	Piedmont
Davie	Piedmont Triad	Piedmont	Rowan	Charlotte	Piedmont
Duplin	Eastern Region	Coast	Rutherford	Advantage West	Mountain
Durham	Research Triangle	Piedmont	Sampson	Southeast	Coast
Edgecombe	Eastern Region	Coast	Scotland	Southeast	Coast
Forsyth	Piedmont Triad	Piedmont	Stanly	Charlotte	Piedmont
Franklin	Research Triangle	Piedmont	Stokes	Piedmont Triad	Piedmont
Gaston	Charlotte	Piedmont	Surry	Piedmont Triad	Piedmont
Gates	Northeast	Coast	Swain	Advantage West	Mountain
Graham	Advantage West	Mountain	Transylvania	Advantage West	Mountain
Granville	Research Triangle	Piedmont	Tyrrell	Northeast	Coast
Greene	Eastern Region	Coast	Union	Charlotte	Piedmont
Guilford	Piedmont Triad	Piedmont	Vance	Research Triangle	Piedmont
Halifax	Northeast	Coast	Wake	Research Triangle	Piedmont
Harnett	Research Triangle	Piedmont	Warren	Research Triangle	Piedmont
Haywood	Advantage West	Mountain	Washington	Northeast	Coast
Henderson	Advantage West	Mountain	Watauga	Advantage West	Mountain
Hertford	Northeast	Coast	Wayne	Eastern Region	Coast
Hoke	Southeast	Coast	Wilkes	Advantage West	Mountain
Hyde	Northeast	Coast	Wilson	Eastern Region	Coast
Iredell	Charlotte	Piedmont	Yadkin	Piedmont Triad	Piedmont
Jackson	Advantage West	Mountain	Yancey	Advantage West	Mountain

ADDITIONAL RESOURCES

North Carolina Sustainable Energy Association:
www.energync.org

2009 Renewable Energy & Energy Efficiency
Industries Census and other recent Green Jobs reports:
www.energync.org/greenjobs

NC Solar Center's Database of State Incentives for
Renewables and Efficiency (DSIRE):
www.dsireusa.org

North Carolina Solar Center:
www.ncsc.ncsu.edu

Energy Center at Appalachian State University:
www.energy.appstate.edu

North Carolin Community College System:
www.ncccs.cc.nc.us

North Carolina Green Business Fund:
www.ncscitech.com/gbf

North Carolina Department of Commerce:
www.nccommerce.com

North Carolina General Assembly:
www.ncleg.net

North Carolina Utilities Commission:
www.ncuc.net

NCSEA MISSION STATEMENT:

The North Carolina Sustainable Energy
Association works to ensure a sustainable future
by promoting renewable energy and energy
efficiency in North Carolina through public
policy, education and economic development.





2009 board of directors and staff

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