



NCSEA

NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION



2008-09 ANNUAL REPORT



www.energync.org



North Carolina Sustainable Energy Association

Education - Public Policy - Economic Development

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August 2009

Dear Friends,

Thanks to your support, NCSEA exceeded all expectations for our organizational growth and performance in Fiscal Year 2008-09. NCSEA excelled in our three practice areas of public policy, education and economic development.

Across the varied landscape of North Carolina this past year, the actions of NCSEA's members, staff and Board of Directors resulted in many unprecedented changes in how we use, generate and think about energy in our economy. This year's Annual Report provides an in-depth look at the accomplishments of NCSEA staff, Board and members in our most recent and best year yet.

In the last twelve months, we strengthened both North Carolina's commitment to sustainable energy and NCSEA's depth and breadth of programs, information, statewide presence, and results. Over the past four years, NCSEA successfully worked with state government to adopt numerous public policies and make changes to regulations, which removed numerous non-technical barriers to the use of energy efficiency and renewable energy across our state.

Citizens and business increased their demand for and implementation of renewable and energy efficient solutions, driving rapid growth in the sustainable energy industry in more than 75% of North Carolina counties. NCSEA responded this past year with a robust new economic development program, where we have brought together state and local government with the private sector, educational institutions and the financial community – laying the groundwork for the Governor and Department of Commerce to pursue the growth of our green energy economy and creation of tens of thousands of sustainable energy jobs.

In the pages that follow, a remarkable story unfolds of how North Carolina has become the Southeast leader in the new global energy economy. This is our shared story of the pursuit of sustainability, and we should all celebrate our individual and collective contribution to the growing success within North Carolina. The next year is rife with economic challenges that we can turn into abundant opportunities. NCSEA, with your support, will be there as we work with you to increase financial support for our work by 20% this coming year. Please continue to give us your support in turning our energy challenges into opportunities.

Sincerely,

Ivan Urlaub, Executive Director

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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 EDUCATION, PUBLIC
POLICY AND ECONOMIC DEVELOPMENT.

2008-09 ENERGY OVERVIEW, CHALLENGES & OPPORTUNITIES

As a result of NCSEA's collaborative work in FY2008-09, North Carolina catapulted forward as the Southeast's leader in sustainable energy policy, regulation and development. Building upon the NC General Assembly's historic passage of the first Renewable Energy & Energy Efficiency Portfolio Standard (REPS) law in the Southeast in 2007, state and local leaders continue to work with NCSEA to enact additional policies and regulations to grow North Carolina's developing green energy economy, create jobs in communities across our state, and increase the use and development of renewable energy technologies and energy efficiency solutions.

Over the last six years, the General Assembly has passed more than sixty sustainable energy-related bills, which is a 200% increase. In combination with recent rulings by the NC Utilities Commission, our state has laid the foundation for our emerging new energy economy to develop, but much more work lies ahead. The success of renewable energy, energy saving solutions and high performance building practices will be critical to making our energy future economically, socially and environmentally sustainable for generations to come.

FINANCIAL OVERVIEW

Fiscal Year Ending June 30, 2009 *

INCOME	\$756,659
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Grants	\$259,500
Donations	\$328,575
Sponsorships	\$58,800
Membership Dues	\$38,746
Other Income	\$45,426
Indirect Public Support	\$5,800
Earth Share NC	\$9,527
American Solar Energy Soc.	\$4,960
Advertising Income	\$5,325

EXPENSES	\$783,288
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Wages & Benefits	\$520,198
Contract Services	\$38,127
Travel & Meetings	\$33,759
Rent, Supplies & Operations	\$91,912
Membership Admin	\$12,001
Lobbying	\$15,500
Publications	\$10,962
All Other Program Costs	\$60,829

** overview is unaudited figures*

Today, an increasingly broad cross-section of North Carolina's citizens and businesses are involved in and support sustainable energy solutions like solar, wind and biomass power, reducing our bills with energy efficiency, and living and working in buildings that are better for us financially and for the environment. In nearly every region of our state, from the mountains to the coast and many points in between, North Carolinians are working with NCSEA to identify their next steps on the path to growing our green energy economy due to our extensive market development and public policy research and expertise.

Our state is no longer resigned to being a mere high-paying importer and consumer of conventional fuels and nuclear cost-overruns. Unlike any other legislative action, passage of North Carolina's REPS in 2007 triggered a sustained rippling through

state and local government regulation and procedures, industry and market development, and electric and natural gas utility business practices, which grows stronger each day.

This new day in sustainable energy opportunity in North Carolina has resulted in a quadrupling of NCSEA's public policy workload, a need to rapidly scale-up and expand our economic development practice, and find efficient ways to improve the energy literacy of more North Carolinians and a greater diversity of audiences across our state.

During the last year, NCSEA's programmatic work, events and forums, and other outreach and communications tools have reached more than 100,000 North Carolinians, including key decision makers, industry and business leaders, local and state elected officials and staff, economic developers, utility managers and regulators, educational institutions, legal/finance/investment experts, sustainable energy advocates and community organizations.

Our recent success is attributable to our unique organizational design of addressing policy, education and market development in an integrated approach that enables simultaneous adaptation of our government and economy to the developing global energy economy. NCSEA has now established itself as the "go-to" non-profit for turning North Carolina's greatest energy challenges into robust, sustainable economic opportunities.

PUBLIC POLICY ACCOMPLISHMENTS

The dramatic expansion in capacity, knowledge and experience of NCSEA's Policy Team has led to even more dramatic impacts on regulatory and legislative policy. NCSEA is now a formidable force at the North Carolina Utilities Commission and the North Carolina General Assembly for formulating and influencing good sustainable energy policy in North Carolina. We have successfully removed barriers to renewable

NCSEA advocates for policies that bring an overall benefit to North Carolina while promoting renewable energy, energy efficiency and creating clean energy jobs. NCSEA develops solutions that create opportunities for all citizens and regions across our great state to be a part of growing our sustainable energy economy.

energy generation and energy efficiency adoption at all levels. We are well on our way to accomplishing the 2007 adopted Renewable Energy and Energy Efficiency Portfolio Standard (REPS) and having a lasting impact on North Carolina's energy future.

NCSEA's Policy Team is composed of: Policy Director Rosalie Day, a highly accomplished policy, economics and renewable energy credit expert; Elizabeth Brown, an experienced utility engineer and policy analyst; and Kurt Olson, a seasoned environmental attorney. This team leverages a

vast knowledge and network of experts to affect success in not only making high-level policy changes, but also the intricacies of policy implementation. Under Rosalie's leadership, NCSEA strives to be a source of accurate, expert analysis and information and a partner for state and local government, business, community leaders and electric service providers seeking opportunity at the forefront of our energy challenges.

Under the leadership of Paul Quinlan, Director of Economic Research & Development, NCSEA's work also expanded in FY08/09 to identify community-based energy needs and support local government learning and decision-making. Specific policy accomplishments are listed below.

NORTH CAROLINA GENERAL ASSEMBLY

Along with intervening in dockets before the North Carolina Utilities Commission, NCSEA spends a significant amount of time educating, advising and building coalitions with legislators and decision makers on issues and bills of importance. In FY2008-09, NCSEA spent less than 5% of our time successfully lobbying for numerous renewable energy and energy efficiency bills to compliment and further advance the progress we made at the Utilities Commission.

Legislative demand for NCSEA's policy and market development expertise has increased dramatically this year at the NC General Assembly, making the 2009

legislative session, which began in late January and concluded in early August, our busiest yet. Close to 70 sustainable energy-related bills were introduced.

Our staff worked overtime with legislators, the Governor's office, the NC Department of Commerce, and other state and local government agencies to ensure passage of priority legislation, which will expand our state's green energy economy and positively impact its valuable businesses, employees and consumers.

THESE BILLS INCLUDE:

Renewable Energy Tax Credit (HB512): Sponsored by Rep. Hugh Holliman, the law extends North Carolina's 35% renewable energy tax credit, which is one of the strongest in the nation, until January 1, 2016. It also expands it to cover geothermal heat pumps and equipment, and it can be taken against the gross premiums insurance tax. (S.L. 2009-548)

Energy to Commerce; Office of Economic Opportunity to Energy (HB1481): Sponsored by Reps. Angela Bryant and Pricey Harrison, the law transfers the State Energy Office from the Department of Administration to the Department of Commerce and transfers the Residential Energy Conservation Assistance Program (weatherization program) from the Department of Health and Human Services to the Department of Commerce (Energy). Overseeing the energy-related programs at Commerce will be a newly-appointed Assistant Secretary of Energy. It also makes changes to the Energy Policy Council, reducing membership from 18 to 16 and requiring members versed in alternative fuels, renewable energy, energy policy, energy finance, and green building. (S.L. 2009-446)

Ensure Accountability Re: Stimulus Funds (SB960): Sponsored by Sens. Martin Nesbitt, Don Davis and Jean Preston, the law would facilitate expedited use and expenditure of federal funds provided under the American Recovery and Reinvestment Act; establish one or more revolving loan funds for the purpose of providing secured loans (\$1 million or less) per entity to install or to an entity that installs energy efficient and renewable energy improvements; and creates a study by the Energy Policy Council and NC Utilities Commission to study how to develop, implement and maintain an Internet website for the online tracking and trading of renewable energy certificates (RECs) in order to verify the compliance of electric power suppliers with the REPS requirements and to facilitate the establishment of a market for the purchase and sale of RECs. (S.L. 2009-475)

Revolving Loan Fund for Energy Improvements (HB1389): Sponsored by Reps. Susan Fisher, Pricey Harrison and Ray Rapp, the law allows cities and counties to lend unrestricted funds or federal stimulus monies to taxpayers in order to establish a revolving loan fund for the purpose of providing loans to finance the purchase and installation of distributed generation renewable energy sources or energy efficiency improvements that are permanently fixed to residential, commercial or other real property. A city/county may use Energy Efficiency and Conservation Block Grant Funds (federal stimulus funds) and its unrestricted revenue to fund the revolving loan fund. The annual

interest rate charge for the use of funds from the revolving loan fund may not exceed 8% per annum, excluding other fees for loan application review and origination. The term of any loan may not be greater than 15 years. (S.L. 2009-522)



Solar Collectors on Residential Properties (HB1387):

Sponsored by Reps. Susan Fisher and Pricey Harrison, the law makes the current limitations on city ordinances, county ordinances, and deed restrictions regulating the installation of solar collectors for single-family residences applicable to all residential property, except certain multi-story condominiums. (S.L. 2009-548)

Energy Savings Contracts' Cap/Program Admin (SB304/H349):

Sponsored by Sen. Dan Clodfelter, this bill increases the amount the state can finance under Guaranteed Energy Savings Contracts from \$100 million to \$500 million.

NCSEA and the Energy Services Coalition anticipate this law will result in more than 2,000 new jobs over the next two years. (S.L. 2009-375)

Amend Certain Electricity Generation Laws (SB1004):

Sponsored by Sens. David Hoyle and Debbie Clary and Rep. Pricey Harrison, the law provides for retention of fuel and fuel-related cost savings associated with the purchase or construction of a carbon offset facility, to bring certain dams used in connection with electric generating facilities under the Dam Safety Act, and to make other changes to laws governing the generation of electricity. Following passage of this bill, Progress Energy Carolinas announced plans to permanently shut down three of its coal-fired plants in eastern North Carolina and seek permission to build a natural gas-fueled plant at the site, which will increase the electricity produced while reducing overall emissions, including carbon dioxide. Progress Energy told legislators and NCSEA they would retire the Sutton Plant near Wilmington (one of the 10 dirtiest coal-fired plants in the United States). But, after the law passed Progress filed a different coal plant retirement proposal with the Utilities Commission that did not include the Sutton Plant. (S.L. 2009-391)

Extend Climate Change Commission (SB835):

Sponsored by Sen. Charles Albertson, the law extends the Legislative Commission on Global Climate Change to October 1, 2010. NCSEA's Executive Director, Ivan Urlaub, serves on this commission. (S.L. 2009-306)

Changes for Bonds Authorized Under ARRTA (HB841):

This bill amends the North Carolina General Statutes to allow the state to take full advantage of the expansion of existing bond programs and the creation of new programs under the American Recovery and Reinvestment Tax Act of 2009. Included are "qualified energy conservation bonds," the proceeds of which can be used for certain energy conservation purposes. As much as 30% of such bonds can be used for private activity. (S.L. 2009-140)

Study Feed-In Rates/Studies Bill (HB945):

The 2009 Studies Bill authorizes the Joint Legislative Utility Review Committee and the Energy Policy Council to jointly study feed-in rates; determine whether establishment of a NC feed-in rate would encourage the use of renewable energy inside our state; how a feed-in rate and our valuable Renewable Energy and Energy Efficiency Portfolio Standard (REPS) law could complement each other; evaluate whether 15-year contracts for feed-in rates are long enough; and quantify the costs and benefits, both monetary and numerous other benefits to utilities, their rate-paying customers, and to our state of offering a feed-in rate. *(Awaiting Governor's signature into law)*

Energy-Efficiency State Motor Vehicle Fleet (HB1079):

Requires the Department of Administration, when purchasing new passenger vehicles, to give preference to new passenger vehicles that have a fuel economy that is in the top 15% of that class of comparable automobiles. *(S.L. 2009-241)*

NORTH CAROLINA UTILITIES COMMISSION

The NC Utilities Commission (NCUC) is a 7-member commission that oversees utility regulation in the state. Proceedings, called “dockets”, include all requests, complaints, and requirements set forth through North Carolina General Statute as it relates to the public utilities of the state. NCSEA’s “intervention” and participation in dockets before the Utilities Commission has made many critical contributions to assist this appointed body to rule in favor of a more sustainable energy future.

Renewable Energy and Efficiency Portfolio Standard (REPS) Rulemaking:

(2008/2009, Docket No. E-100, SUB113) This docket sets parameters for the development of the renewable energy markets in North Carolina. It also established a renewable energy certificate (RECs) tracking system docket, NCUC Docket No. E-100, Sub 121, which is based on NCSEA’s comments, advocacy, and ability to overcome opposition to a tracking system. The rulemaking proceeding was expedited (Working Rules adopted in February 2008), and as a result, there were still outstanding issues that are being addressed, including the issue of “in-state” and “out-of-state” RECs and the relative compliance value of each. In the last year, NCSEA has made numerous filings in response to interpretations of the REPS law and clarifications of rules to protect the integrity of the portfolio standard law

Integrated Resource Planning (and REPS Compliance Plans) : *(Docket No. E-100, Sub 118)* The integrated resource planning (“IRP”) proceeding is a biennial one in which the Commission reviews the electric utilities’ plans for meeting the long-range electricity needs of the State. With the passage of the REPS Law and the subsequent REPS rulemaking docket (E-100, Sub 113), the Commission revised the rules regarding IRP filings to include the utilities’ REPS compliance plans. NCSEA’s filings were successful in affecting such issues as maximizing the funds under the REPS compliance cap that creates the ceiling for utilities to spend on acquiring renewable energy.

2008 Biennial Avoided Cost Proceeding:

(Docket No. E-100, Sub 117) Every two years, the Commission holds proceedings pursuant to the Federal Public Utility Regulatory Policies Act of 1978 (PURPA) regulations, which require the Commission to approve each utility's avoided costs rates for purchases from qualifying co-generators and small power production facilities. These proceedings are held for the Commission to determine the rates to be paid for energy and capacity (to generate energy) by electric utilities for renewable power purchased from small power producers. NCSEA supported the higher avoided costs being proposed by the utilities to the extent that those higher avoided costs reflected true costs. NCSEA expects that rising avoided costs in North Carolina will stimulate renewable energy development in the state, and should enhance the competitiveness of renewable energy with traditional fuel sources.

RECs Tracking System: *(2008/2009, Docket No. E-100, Sub 121)* In July 2008, NCSEA petitioned the Commission for a generic formal proceeding to investigate, evaluate and adopt elements and criteria for a renewable energy credit (RECs) tracking system so that it was in compliance with North Carolina's renewable energy portfolio standard (REPS). The elements presented were initially developed in the state of Texas and since has become the hallmark standard across the country. NCSEA has been instrumental in the working group process for the last year and will soon evaluate proposals from vendors to bid on a RECs tracking system for North Carolina. The tracking system will come online late next spring.

**A LOOK BACK AT NC HISTORY:
The great efficiency debate**

2003 – NCSEA initiates Public Benefits Fund campaign

2005/6 – NCSEA Starts Citizen and Business Efficiency Campaign, allocates resources in 9-month IRP process *(Docket No. E-100, SUB103)*

2006/7 – NCSEA Files Consumer Complaint against Duke Energy for ignoring energy efficiency *(E-100, SUB110)*

2006 – Duke creates collaborative efficiency work group to address consumer complaints

2007 – NCSEA tries to help Duke Energy design efficiency program

2007 – NCUC disapproves Duke proposed 800 MW coal power unit *(E-7, SUB 790)*, orders 1% of revenues to go to efficiency

2008 – NCSEA opposes Save-A-Watt *(E-7, SUB 831)*; proposes more cost-effective rate structures to encourage ratepayers to adopt energy efficiency measures *(E-100, SUB 116)*

2009 – NCSEA opposes aspects of Progress Energy Carolina's energy efficiency cost-recovery mechanism because the proposed incentives are not transparently tied to performance; NCSEA suggests a more transparent performance incentive mechanism *(E-2, SUB 931)*. NCSEA supports GreenCo's electric membership corporations' cost-effective energy efficiency programs *(E-100, SUB 118)*. NCSEA promotes smart grid investments to facilitate more energy efficiency measures and options, and to provide ratepayers more information about their electricity usage *(E-100, SUB 123)*.

Progress Energy Carolinas' 2008 REPS Rider: *(Docket No. E-2, Sub 930)* In this first cost recovery proceeding filed after the passage of the REPS, Progress Energy petitioned for approval to recover in customer rates for specifically its renewable energy and renewable energy certificate purchases. The primary issue in this proceeding was what constituted the correct determination of the renewable energy cost premium. Progress Energy had suggested including avoided capacity costs, but NCSEA and another party argued that this methodology was incorrect. Progress Energy's original request was roughly \$11.5 million. The Commission ultimately sided with NCSEA. The result was an additional \$2.4 million made available for Progress Energy to obtain renewable energy resources.

Progress Energy Carolinas' 2009 REPS Rider and 2008 REPS Compliance Report: *(Docket No. E-2 Sub 948)* This proceeding contains Progress Energy's 2008 REPS compliance report, which includes solar, solar thermal, wind, landfill methane, biomass, and hydro, and its 2009 REPS cost-recovery rider. In this second REPS cost-recovery proceeding, NCSEA has intervened in this proceeding and has reviewed Progress Energy's compliance report and its confidential compliance costs. Overall, NCSEA is pleased with the efforts Progress Energy has undertaken to meet its compliance obligations, particularly its solar set-aside obligations.

Duke Energy Carolinas' 2009 REPS Rider and 2008 Compliance Report: *(Docket No. E-7, Sub 872)* In Duke Energy's first annual REPS cost recovery proceeding to be filed after the passage of the REPS, NCSEA expressed that, on balance, it was pleased with Duke's efforts to procure renewable energy resources, adhering to its compliance plan, but had two primary areas. First, NCSEA identified the very low solar REC price published by Duke in its recently released Standard Offer and its potential negative effects on the emerging solar energy market in North Carolina. Second, NCSEA took issue with some of Duke's proposed re-classifications of customer classes due to their effect of reducing the amount of money available to obtain renewable energy resources under Duke's REPS cost cap and reinterpretation of intent of the REPS law.

Progress Energy Carolinas' 2008 EE/DSM Rider Proceeding: *(Docket No. E-2, Sub 931)* As the first energy efficiency/demand-side management ("EE/DSM") cost recovery proceeding to take place since the passage of the REPS, Progress Energy proposed to recover the program costs, net lost revenues, and a suite of other incentives for their energy efficiency/demand-side management programs. NCSEA argued that the original proposed incentives did not serve the interest of North Carolina's ratepayers because the incentives were not closely tied to program performance and the net lost revenue portion lacked transparency. While NCSEA still retains some of its objections, NCSEA is encouraged some of the program incentives were curtailed from the original proposal.

Net Metering: *(2008/2009, Docket No. E-100, SUB 83)* NCSEA has been working for over 10 years in this docket to move towards a stronger standard and has been making steady progress. NCSEA's latest round of net metering efforts stem from the General Assembly's directive in Session Law 2007-397 to the Commission to consider whether it is in the public interest to increase the eligible system size for net metering to one (1) megawatt ("MW"). The Commission's determining criteria was a focused on the size

and flow of cross-subsidies from net-metered customer-generators to a utility's other customers. NCSEA filed expert direct and rebuttal testimony throughout 2008. These filings detailed some of the benefits net metered customer-generators provide to a utility's other customers, and to the utility itself and argued for:

- a. Net-metered customer-generators to receive credit for all renewable energy credits ("RECs") and energy that they produce;
- b. The utilities pay net-metered customer-generators for their excess energy at the annual true-up at the utility's avoided cost rate;
- c. Net-metered customer-generators be able to select their own rate schedules, provided that they would have been eligible for the particular rate schedule absent their own generation;
- d. The Commission increase the aggregate limit on net metering from 0.2% to 2% of a utility's North Carolina retail jurisdiction's peak demand;
- e. The Commission waive the stand-by charges for net-metered customer-generators already subscribed to a time-of-use demand ("TOU-D") rate schedule; and
- f. The Commission increase the eligible system size for net-metered customer-generators to 1 MW.

The Commission issued an order on March 31, 2009 amending the net metering rules. The Commission fully sided with NCSEA on three of the issues listed above – increasing the eligible system size to 1 MW, eliminating the aggregate limit, and allowing net-metered customer-generators to choose their own underlying rate schedule. The Commission sided partially with NCSEA on the issue of allowing net-metered customer-generators to receive credit for all of their RECs produced; the Commission decided that net-metered customer-generators subscribing to a TOU-D rate schedule would retain ownership of all their RECs at the annual true-up.

Duke Energy Carolinas' Application for Distributed Solar Generation Project:

(Docket No. E-7, Sub 856) This docket concerned the cost effectiveness of Duke Energy Carolinas' proposal to build its own solar distributed generation facilities on leased rooftops. NCSEA's participation in this docket emphasized ensuring that Duke Energy's project would not inhibit the developing solar market in North Carolina. Ultimately, the Commission approved Duke Energy's project at half of its original size and cost, 10MW, and \$50 million.

2008 Investigation into Rate Restructuring: *(Docket No. E-100 Sub 116)* This proceeding was initiated to investigate and prepare an analysis of whether rate structures, policies, and measures that promote a mix of generation involving renewable energy sources and demand reduction instituted in other places should be implemented in this state. NCSEA provided extensive comments and analysis on these topics including eliminating the current supply side disincentive, and creating demand-side incentives through rates. While the Commission chose at that time not to take formal action to further pursue these policies in the state, the Commission did incorporate much of NCSEA's analysis into its report submitted to the Governor, Environmental Review Commission, and the Joint Legislative Utility Review Committee.

Investigation into Adopting Guidance or Rules for Electric Utilities to Assess the Capabilities of the Wholesale Market in Making Resource Additions: (*Docket No. E-100, Sub 122*) This investigation was to determine whether any additional guidance is needed on the part of the Commission to the electric utilities when making generation resource additions from the wholesale market. NCSEA argued that additional guidance to the investor-owned utilities is indeed necessary when they are considering making resource additions. The Commission recently issued an order in this proceeding in which it declined to adopt more stringent formal guidance, but it did direct the utilities to demonstrate their efforts in engaging the wholesale market in future generation-build proceedings.

Standards for electric utilities relating to IRP, rate design modifications to promote energy efficiency investments, smart grid investments and smart grid information per the Energy Independence and Security Act 2007: (*Docket No. E-100, Sub 123*) On December 19, 2007, the President of the United States signed into law the Energy Independence and Security Act of 2007. In November 2008, the Commission opened a proceeding to consider whether it was in the public interest to adopt certain standards in the Security Act of 2007, relating to: modifying the integrated resource planning process to establish cost-effective energy efficiency as a priority resource; modifying rate designs to promote energy efficiency investments; requiring utilities to consider smart grid investments before investing in traditional grid technologies; and establishing standards for smart grid information related to supplying pricing and usage data to electricity consumers. NCSEA has extensively participated in proceedings in front of the Commission concerning integrated resource planning and rate structures to promote efficiency. NCSEA took the opportunity to provide support for the consideration of smart grid technologies that present a potential win-win-win situation for all parties involved – utilities, ratepayers, and renewable energy generators – by enabling conservation rate structures, real time management of the electricity grid, and smoother integration of non-utility owned renewable distributed generation facilities.

LOCAL GOVERNMENT

Wind Power Siting and Permitting – Through its collaborative leadership in forming and leading the NC Wind Working Group, NCSEA staff Paul Quinlan led the drafting and announcement of a model wind energy ordinance in the summer of 2008 and participated in community wind energy forums across the state in the last year. The model ordinance provides critical assistance to counties striving to balance economic development opportunities in sustainable energy with local concerns over wind power technology that is new to North Carolina. To date, five counties have approved local wind ordinances.

NCSEA participated in the Wind Energy Technical Advisory Group, informing the Environmental Management Commission concerning the formation of bill language for statewide wind energy permitting. Statewide wind energy permitting legislation, SB1068, was introduced during the 2009 session of the NC General Assembly; however, strong

opposition arose amongst several western Senators who attempted to essentially ban utility-scale wind energy in the mountains. NCSEA partnered with environmental and community organizations to prevent passage of this ban by the House and we will continue to educate legislators on this issue during the interim.

NCSEA also presented to key state regulators at fall meeting of Coastal Resources Commission and local western leaders at a wind energy workshop hosted by the Appalachian Regional Commission.

Authorizing Legislation for Local Energy Actions:

- **Raleigh Energy Efficiency (HB464):**
Sponsored by Reps. Greer Martin, Ty Harrell, Jennifer Weiss and Deborah Ross, this law exempts the City of Raleigh from competitive bidding requirements when signing contracts for use as any part of a pilot program to test the efficiency and effectiveness of LED technologies or any other energy efficiency program. In addition, the bill authorizes the Cities of Raleigh and Winston-Salem to enter into leases for the siting and operation of renewable energy facilities for 20 years without treating it as a sale of land. Following passage of this bill, the City of Raleigh announced plans to construct a 1.3-megawatt solar photovoltaic (PV) array, which will be located at the Neuse River Wastewater Treatment Plant. The project will be the first utility-scale solar power project located on local government property in North Carolina. *(S.L. 2009-149)*
- **Various Localities Energy Development Incentives (SB52):**
Sponsored by Sen. R.C. Soles, the law authorizes counties and municipalities to provide development incentives in exchange for reductions in energy consumption. *(S.L. 2009-95)*

Appointments & Leadership

NCSEA's Executive Director, Ivan Urlaub continued to serve on the NC Legislative Commission on Global Climate Change and on the state Climate Action Plan Advisory Group. Through these positions, NCSEA's voice is amplified in the policy discussion and helps shape North Carolina's energy and climate future. Urlaub also serves

Urlaub also serves on the Advisory Board for "Charlotte USA – The New Energy Capital," an initiative led by the Charlotte Regional Partnership to turn the Charlotte region into a bigger player in the new energy economy through a range of initiatives - from expanding manufacturing and research to increased job training.

Paul Quinlan, Director of Market Development and Research, contributes to the NC Wind Working Group and Wind Technical Advisory Group, which includes Federal and State agencies, non-profit organizations, industry professionals, and other stakeholder interests in this collaborative process. Quinlan also serves on the NC Green Business Fund Advisory Committee.

EDUCATION AND OUTREACH ACCOMPLISHMENTS

NCSEA made improvements to existing educational programs in FY08/09, including the production and distribution of more than six new educational tools and publications for citizens, business and government decision makers.

NC Green Building and Solar Tour:

NCSEA further expanded the annual tour in 2008 to include 12 local community tours across the state. Close to 1,500 people participated in the tours, which featured sustainable energy expos and more than 80 homes, businesses, schools, government facilities, and other renewable energy projects in the following communities: Asheville, Boone/High Country, Chapel Hill/Orange County, Charlotte, Chatham County, Durham, Fayetteville, Greenville, Hendersonville, Raleigh, Wilmington and Winston-Salem. A variety of renewable resources were showcased, including active and passive solar, energy efficiency, wind, geothermal, micro-hydro, methane capture and small-scale biodiesel.

Green Building Pavilion:

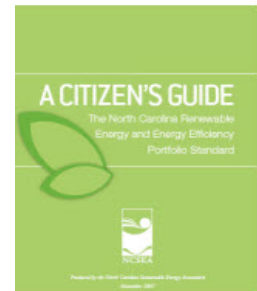
NCSEA continued its fruitful partnership with the Southern Home Show to host the “Green Building Pavilion” at the Spring & Garden Home Show in Charlotte and Fall Southern Home Show in Raleigh. The Pavilion connects dozens of exhibiting NCSEA business members with over 50,000 consumers in the span of just a few days, in addition to extensive media coverage of the shows. The Pavilion has been not only a successful educational opportunity for visitors to experience the NCSEA “green home” constructed onsite, but for market development as businesses book several months worth of new sales and generate new leads.

At the 2008 Fall Raleigh Southern Home Show, NCSEA won “Best in Show” for leading the concept and building of the on-site Green Model Home, providing visitors with a hands-on green structure exhibiting multiple sustainable energy solutions as a whole system. NCSEA has now won this award three times.

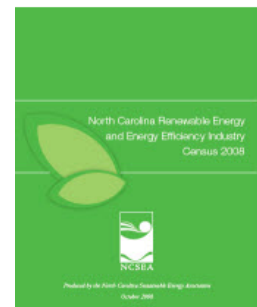
Annual Membership Meeting & 30th Anniversary Celebration:

In November 2008, NCSEA held its annual membership meeting at the Durham Convention Center in downtown Durham, which

Featured NCSEA Publications



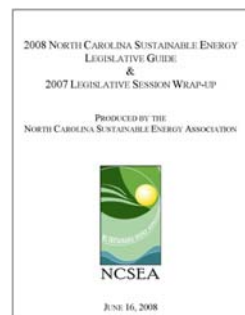
REPS Citizen's Guide



2008 Industry Census



2008 Green Bldg & Solar Tour Guide



2008 Legislative Guide

was combined with a Networking Reception and Fundraiser to mark the organization's 30th Anniversary. The events attracted close to 250 attendees from across the state, which helped NCSEA meet its \$30,000 "Anniversary" fundraising goal. Solar and green building technologies and educational materials, provided by NCSEA members, were on display during the celebration, as well as a visual presentation featuring photos and key accomplishments of the organization since its founding in 1978. NCSEA also honored its founding members, Clarence Beaver, Ben Gravely, Leon Neal and Mike Nicklas, with 30th Anniversary Legacy Awards.

During the membership meeting, NCSEA members approved new bylaws, received updates on policy, education and economic development initiatives, and elected new Board Directors Joel Olsen from Charlotte and Henry McKoy from Durham.

Expanded Education & Outreach Efforts in High-Growth, High-Potential Regions of North Carolina:

Since passage of the REPS, several "energy hubs" have developed across North Carolina, which have experienced a more rapid growth in terms of renewable energy and energy efficiency businesses, jobs and workforce training programs. These regions include: the Triangle, the greater Charlotte region, western North Carolina, and more recently, Elizabeth City in eastern North Carolina.

Due to NCSEA's unique expertise on sustainable energy and our market development research and analysis, many local elected officials, industry and business leaders, educational institutions and community organizations within these hubs have engaged and become reliant on our organization for guidance and assistance.

For example, earlier this Spring, NCSEA established a Sustainable Energy Leadership Council in the Charlotte Region, which is made up of approximately 30 key decision makers representing various sectors of the industry and government. These leaders expressed a need for NCSEA to have a greater and more permanent presence in the Region in order to help facilitate and coordinate the efforts of existing community organizations while advancing sustainable energy and creating economic opportunities.

These collaborative efforts paid off quickly. NCSEA held a Networking Reception & Fundraiser in Charlotte in June, which attracted close to 250 attendees (initial estimates were 100-125) – and many new Individual and Business Members. NCSEA is in the process of raising funds to hire a part-time staffer who will be based in Charlotte. Staff has been asked to speak at or participate in numerous local policy or economic development type meetings. And, NCSEA plans to hold its Annual Membership Meeting, in combination with a Green Energy Economy forum and Networking Reception & Fundraiser at the Charlotte Convention Center in October.

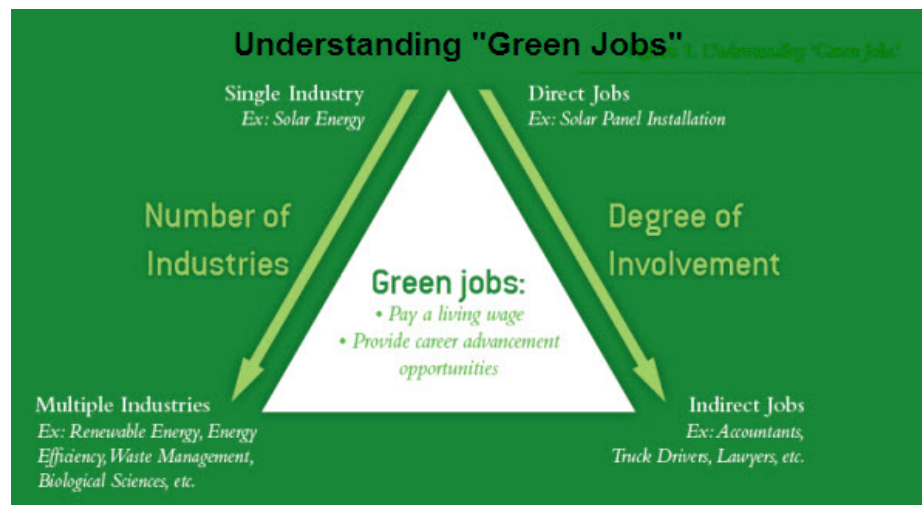
ECONOMIC DEVELOPMENT ACCOMPLISHMENTS

The passage of Senate Bill 3 in the summer of 2007, creating the first REPS law in the Southeastern United States, immediately opened vast market development opportunities for North Carolina's budding sustainable energy industry.

In the last twelve months, NCSEA continued its strategic and programmatic commitment to market development of North Carolina's sustainable energy industry and its valuable businesses, employees and consumers. Major accomplishments – outlined below – include the release of innovative market research, contributions to workforce development, and hosting a regional energy forum called, *Making Energy Work: Building a Sustainable Energy Economy in the Southeast*.

MARKET DEVELOPMENT RESEARCH AND “GREEN JOBS”

The promise of “green jobs” is a message of hope inspiring the search for a more economically sustainable approach to our energy challenges that will retain domestic employers and attract new green employers. North Carolina decision-makers put their faith in the promise of “green jobs” as part of their reasoning for supporting the first REPS law in the Southeast.

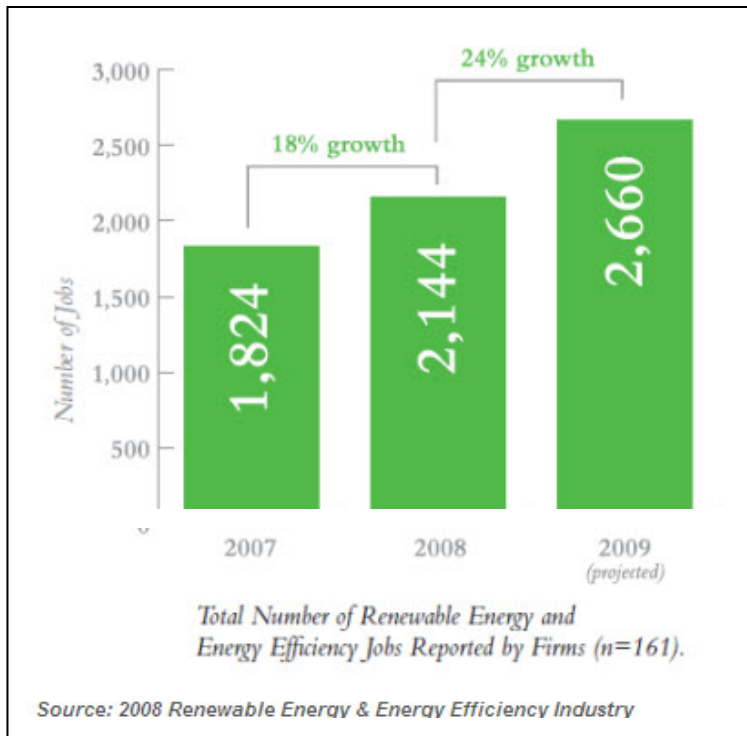


2008 Renewable Energy & Energy Efficiency Industry Census

However, at the time the REPS law was passed creating the new market opportunity, North Carolina had very limited and inadequate information regarding how many jobs we already have in energy efficiency and renewable energy. Even worse, the term “green jobs” has been applied so vaguely and inconsistently across the United States that it is a useless term to informing policy, regulatory and market decision-making on complex energy issues.

Renewable Energy & Energy Efficiency Industry Census, 2008:

In January 2007, NCSEA set out to define “renewable energy and energy efficiency jobs” for North Carolina, and design a survey to quantify the number of these jobs in North Carolina. Paul Quinlan, with the assistance of Abbie Turiansky, Stanback Graduate Intern for Energy Market Research, and various experts, designed a survey and circulated it to renewables and efficiency businesses across NC.



On November 12, 2008, NCSEA released its first annual, "North Carolina Renewable Energy & Energy Efficiency Industry Census," which details the employment size, job competencies, economic impact and anticipated growth of the new energy economy in our state. North Carolina became only the third state in the nation to complete such a far-reaching, statewide survey. Furthermore, the work of NCSEA is the only known effort to create a longitudinal data set by conducting an annual industry census.

NCSEA identified and surveyed 486 firms focusing on renewable energy and energy efficiency in North Carolina. Through the survey, NCSEA estimated the renewable energy and energy efficiency industry employed over 6,470 employees in 2008. Preliminary results from the 2009 census indicate employment in the industry is over 10,000 in 2009.

Since completion of the inaugural census, the market data has been utilized by members of the NC General Assembly, Office of the Governor Beverly Perdue, NC Department Commerce, workforce development boards, regional economic development partnerships, and a variety of finance and industry professionals.

Study of Direct Economic Impact of the NC REPS Law:

In May 2008, NCSEA contracted with La Capra Associates to conduct a study of the direct economic impact of utility compliance with the NC REPS Law. La Capra is the same firm that conducted the NC Utilities Commission's 2006 cost-benefit and feasibility study of a 10% REPS.

NCSEA believes this study provides very conservative estimates for the number of jobs decision-makers can expect to see from the broad renewable energy and energy efficiency industry. Renewable Energy Certificates generated to comply with the REPS law. By focusing on jobs created around compliance with the REPS mandate, this study does not include employment growth from green building, energy efficiency and distributed generation markets that are experiencing rapid growth exclusive of the new REPS law.

The final report, which was released in November 2008 in combination with the Industry Census, found that meeting the REPS mandate will require the support of over 4,000 direct, indirect, and induced jobs by the year 2021, with most jobs occurring in the biomass industry.

WORKFORCE DEVELOPMENT

Foreseeing the coming expansion in renewable energy and energy efficiency project development in North Carolina, NCSEA began implementing its workforce development research program to identify North Carolina's sustainable energy workforce needs. Through a 3-month vetting process with industry, local and state decision-makers from the executive and legislative branches, the financial community and likely adopters of these technologies, NCSEA provided leadership in workforce development by organizing industry focus groups for the solar energy and building science sectors, hosting a Sustainable Energy Workforce Symposium in September 2008, and convening a Sustainable Energy Workforce Advisory Committee. Through these activities, NCSEA contributed to the development of valuable networks and the exchange of important information, allowing a variety of state and local stakeholders to more effectively pursue effective workforce trainings in North Carolina. Today, NCSEA intends to remain engaged as a valuable resource in these ongoing conversations and developments.

A LOOK BACK AT NC HISTORY: Building Sciences, Education & Consumer Choice

1990's – NCSEA conducts its first public Solar Tour of homes powered using the sun.

2006 – NCSEA helps pass law to expand authority and strength of NC low-income energy assistance programs.

NCSEA works with HBA of Durham, Orange and Chatham to add sustainable energy options to Multiple Listing Service system.

NCSEA aggressively expands our Green Building & Solar Tour to 12 local tours across 35 communities.

NCSEA hosts first award-winning "Green Building Pavilion" for the Southern Home Show in Charlotte and Raleigh.

2007 & 2008 – NCSEA further expands Tour to 15 local tours across 50 communities, thousands attend; Continues Green Building Pavilion.

NCSEA conducts survey of NC Energy Raters on Fannie Mae EE Home Mortgages

2008 – NCSEA develops workforce development program to ensure long-term success of sustainable energy industry in North Carolina.

2008 – NCSEA conducts its first annual "Renewable Energy & Energy Efficiency Industry Census"

2009 – NCSEA hosts "Making Energy Work," a regional forum for 500+ energy and economic leaders from across the Southeast

“Making Energy Work” Forum:

On February 3, 2009, NCSEA hosted a major energy forum entitled, “*Making Energy Work: Building a Sustainable Energy Economy for the Southeast*” at the Raleigh Convention Center. The forum attracted over 500 attendees from across the Southeast, including many of our nation and region’s top energy and economic leaders, to discuss the Southeast’s emerging new energy economy and developing sustainable energy resources.



Participants included local, state and federal government, educators, business and industry, electric cooperatives and investor owned utilities, facility managers and owners, design and engineering companies, academic institutions, economic developers, and community organizations from across the Southeast.

The day-long forum featured 3 plenary sessions and 10 breakout sessions. Speakers included experts from the U.S. Department of Energy, New Energy Finance, Green For All, National Council for Advanced Manufacturing, San Francisco State University, AdvantageWest North Carolina, University of North Carolina-Greensboro, Southeastern Energy Efficiency Alliance, and Natural Capital Investment Fund.

NCSEA plans to host the “Making Energy Work” forum annually, with the 2010 event being held in the fall of 2010.

Federal Stimulus Funds – Job Creation & Investment Survey:

In February, as the US Congress began debate on the federal stimulus package and as the NC General Assembly convened, NCSEA conducted an online survey of more than 500 renewable energy and energy efficiency businesses across our state, with 71 responding. Companies were asked if the federal economic stimulus package was approved and/or if the NC Legislature took action to remove economic and market barriers, how many new projects could be initiated before the end of 2010 and how many new jobs could be created.

Based on survey responses, NCSEA found that if state and federal legislative action occurred, which includes passage of the federal economic stimulus package and removing current barriers, sustainable energy businesses across North Carolina could create over 7,500 new jobs in the next two years and initiate close to \$2 billion in new projects.

These valuable survey results were collected and shared with our state’s elected officials and key decision makers to show the need for legislative action to positively grow our green energy economy, which in most cases has occurred.

Energy Poverty Research:

NCSEA research conducted by Paul Quinlan and Stanback Graduate Interns in 2006 through 2008 identified a serious and possibly devastating energy problem facing more than 150,000 households in North Carolina – the challenge of energy poverty.

In 2004, NC households at 50% of the poverty level were paying more than 40% of their annual household income on home energy costs. NCSEA’s literature survey in 2008 found the amount paid by these households for energy increased to 51% of their annual household income.

This population has had little to no voice in NC’s energy debate. However, any energy path pursued by North Carolina’s decision-makers cannot be called “sustainable” energy if it leaves this voiceless population behind.

The rapid rise in energy costs of natural gas (30% in June/July 2008 alone), electricity (expected to be 10% this year), transportation and materials to make their homes more energy efficient will become a financially insurmountable barrier for many of these households beginning in the winter of 2008/2009.

NCSEA worked to raise awareness and understanding of North Carolina’s serious energy poverty challenge in our work with communities, community development corporations, local governments and legislators.

**ENERGY POVERTY IN NC
(2008 Figures)**

Poverty Level	Percent of Annual Income Spent on Home Energy Needs
Below 50%	54.5%
50-74%	22.0%
75-99%	15.8%
100-124%	12.2%
125-149%	10.0%
150-185%	8.2%

Source: Fisher, Sheehan, & Colton. Home Energy Affordability Gap; Released April 2009

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AUGUST 2009

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