



RESEARCH TRIANGLE
CLEANTECH CLUSTER



Transformation Through Collaboration >> 2013 Annual Report

A Message To Our Members

What a difference one year can make!

Just over 12 months ago, the board of directors of the Research Triangle Cleantech Cluster (RTCC) gathered for the first time. Our agenda was ambitious: to begin building a leadership infrastructure to foster the success of one of our region's most promising industry clusters.

With expectations high, RTCC enjoyed strong hands-on assistance from its officers, board of directors, advisory board, members and other stakeholders. Their commitment to make the Research Triangle Region the world's most conducive backdrop for cleantech innovation has been clear in the months since our founding. It will be equally critical moving forward.

Our cleantech cluster spans game-changing solutions in smart grid, smart water and smart transportation, three outwardly distinct industry segments that have common threads and skill-sets. The vitality of each segment rests on interaction between history-making ideas, technologies and people. Progress in one realm informs and inspires the others, elevating the competitive bar for the entire cluster. Small and large firms prosper, our civic and academic partners gain international recognition, and good jobs and new wealth are sown throughout the region.

Hence the need for a reliable venue to ensure regular communication and collaboration. RTCC is that venue. We've forged value-added links between companies and among technologies. We've worked with our educational and economic development partners to attract and retain cluster-specific talent. We've brought to the table unique technology-transfer expertise from across the region. We've attracted the interest of companies seeking to invest in new and expanded operations, creating jobs and opportunities for our citizens.

RTCC also projects its leadership externally, extending the Research Triangle Region's renowned brand as an open portal into the global marketplace. Products and services pioneered here are marketable in every corner of the world. We're maximizing the value of our membership in the International Cleantech Network (ICN), an exclusive group of 13 cleantech regions from around the world, to connect our cluster to opportunities worldwide.

In 2013, with assertive direction from our board, RTCC moved ahead on key organizational and program objectives, and you will find additional details on our activities in the pages that follow. While much work lies ahead, together we've made an encouraging start—one in which all of us can share pride.

Thank you for your ongoing interest and strong support!



Ed White
Chairman

Ed White



Lee Anne Nance
Managing Director

Lee Anne Nance

Clean technologies have transformative potential for the region's economy.



Articulating Our Mission

The Research Triangle Cleantech Cluster (RTCC) enhances the competitiveness of the Research Triangle Region in the global cleantech sector by building on and highlighting regional strengths, creating channels of collaboration and nurturing opportunities for history-shaping innovation.

Affirming Our Goals

- ▶ **To Innovate** — Making our clean technology companies more successful in their mission.
- ▶ **To Accelerate** — Fostering the growth of the Research Triangle Region's cleantech economy and global reputation.
- ▶ **To Sustain** — Building and maintaining long-range momentum as a world-leading cleantech cluster.

Cleantech Cluster: The Rationale

The Research Triangle Region's economic history makes it a uniquely lucrative backdrop for cleantech companies. The seeds of the region's cleantech cluster date to the 1954 arrival of Westinghouse Corp.'s electricity metering division from New Jersey. A decade later, IBM began building its massive hardware and software presence here. Computer networking giant **Cisco Systems** later joined them. Homegrown software and data analytics companies such as **SAS** added to the mix, making the region a one-of-a-kind intersection for the convergence of hardware, software, network solutions and business analytics.

The elements of a world-leading cleantech cluster emerged organically in the Research Triangle Region. Today it includes hundreds of companies that cover a vast spectrum of the cleantech industry — with names like **ABB**, **Itron**, **Sensus**, **Siemens** and **Schneider Electric**.

They span operations in energy generation, transmission, distribution, consumption and analytics. They engage in the purification, storage, treatment and discharge of water. They lead in the development of plug-in electric vehicle technologies.

Lending critical support to these companies are academic and government-backed research centers that share a commitment to cleantech innovation.

Clean technologies have transformative potential for the region's economy. They represent the "third wave" of innovation-based job growth and business development that began two generations ago with information technologies and continued during the 1980s and 1990s with life sciences. We believe the coming two decades will be remembered here as the "era of cleantech."

The Research Triangle Region is a pioneer in cluster-based economic development. The approach has been central to our economic strategy, which seeks to spark synergies among industry, educational institutions and government. A rich legacy of collaboration sets our region apart, measurably and repeatedly proving that strategic partnering can accomplish far more than any corporation or community can achieve in a silo.



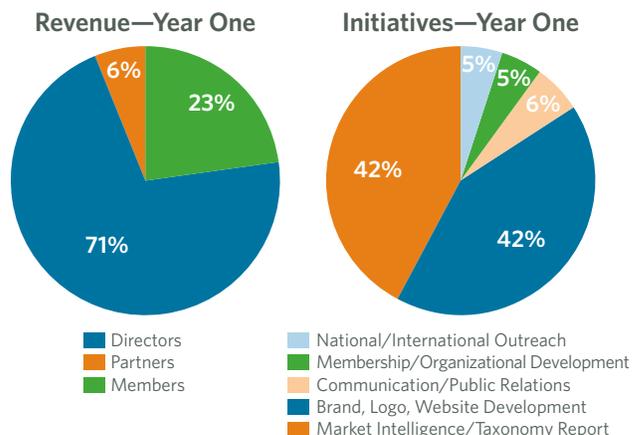
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Building Cohesion and Continuity: Organizational Development

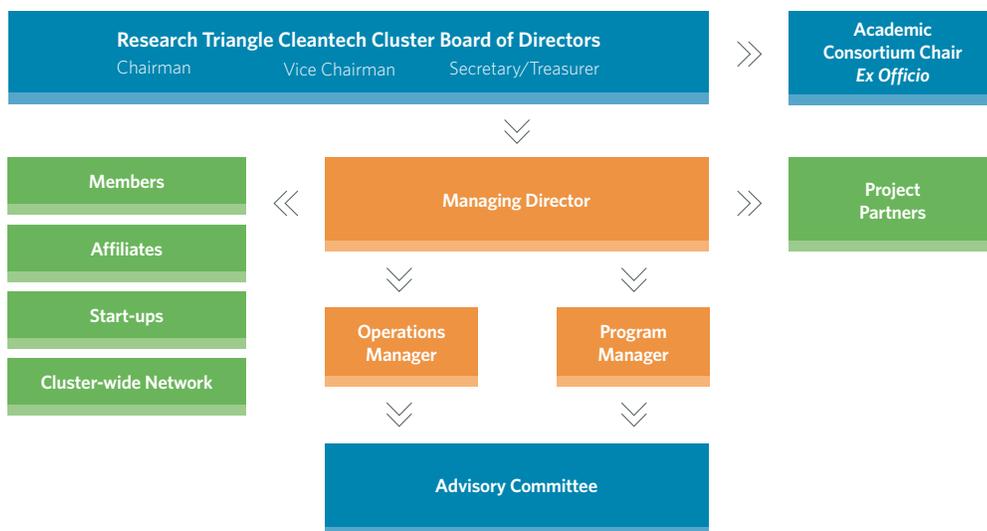
An ongoing and meaningful dialogue among clean technology companies throughout the ecosystem is crucial to the cluster's growth and economic impact. RTCC is *the* crossroads for cleantech leaders, offering a knowledgeable and supportive arena where stakeholders of every size and scope may gather. Supportive utilities such as **Duke Energy** and **Piedmont Natural Gas**, **ElectriCities of North Carolina, Inc.** and **NC Electric Membership Corporation** add technical expertise and leadership to RTCC, playing a key role in creating new market opportunities and addressing challenges.

The structure and governance of RTCC enables the widest possible array of cluster stakeholders to share input and strategic perspective about the industry and its future both globally and in the region. RTCC continues to actively recruit new members to its ranks. Any firm or individual engaged in the cleantech economy may participate in the cluster network through one of our cluster-wide meetings or working groups at no cost. Paying members gain greater access to global market leaders, as well as opportunities to leverage RTCC collaboration in enhancing and expanding their businesses. They also play an active part in responding to challenges faced by the industry—including crafting solutions for talent recruitment, workforce readiness and public policies that affect business growth.



RTCC created an Academic Consortium drawn from the region's three Tier 1 research universities, public and private higher educational institutions, and community colleges. The consortium provides specialized input and feedback, harnessing academic partners who provide vital links to emerging technologies, scientific and engineering talent, state-of-the-industry skills and cleantech-savvy business expertise. **North Carolina State University** holds the Consortium's founding chairmanship.

RTCC enjoys professional management through its relationship with Research Triangle Regional Partnership (RTRP), which ranks among the world's most recognized and reputable regional economic development organizations.



Our members also play an active part in responding to challenges faced by the industry—including crafting solutions for talent recruitment, workforce readiness and public policies that affect business growth.

Instilling Value: Year One

The Research Triangle Cleantech Cluster has engaged in program work to enhance the competitiveness of the region in the global cleantech sector in the following areas:

► **Branding**—Cultivating a globally viable clean technology cluster requires crafting a regional identity that captures the imagination of industry decision makers at home, around the nation and abroad. This year, RTCC engaged the services of The Stone Agency, in partnership with Liaison Design Group, to gather and analyze input from cluster leaders on the ideal branding strategy. Technology, talent, policy leadership, profitability and a legacy of innovation are the core features of the RTCC brand, which now has a trademark and tagline: “Transformation through collaboration.”

Select activities:

- » Monthly RTCC newsletters to over 400 subscribers
- » 33 media and trade stories
- » RTCC logo won national design award
- » 3 cluster-wide meetings featuring regional company product demos, student cleantech entrepreneurs, and BBQ!
- » Hosted Research Triangle Region energy sector panel at Institute for Emerging Issues forum

► **Industry Engagement**—Forging collaborative business ties between RTCC companies is central to the cluster’s sustained growth and competitive position. Also critical is a meaningful ongoing dialogue between industry leaders, educational and civic partners, and functional allies such as engineering and law firms. RTCC enjoys the membership of **Kilpatrick Townsend & Stockton** law firm, **O’Brien/Atkins Associates**, **Burkhead Brand Group**, and **McKim&Creed** engineers. As a permanent venue for communication and collaboration, RTCC helps identify and fill gaps in the cluster’s value-chain. We then pursue a business development agenda based on what member companies tell us they need. This past year, RTCC’s industry engagement groups were led by Wake County Economic Development and Advanced Energy.



Select activities:

- » 2 industry engagement meetings featuring vehicle to grid product demonstrations and workplace charging
- » Site visits to ABB, Power Analytics, Sensus and SAS for World Pi Day March 14 (think 3.1415...)
- » Organized energy analytics panel for Triangle Area Analytics Group (TAAG) meeting

► **Entrepreneurial Development**—Our cleantech cluster is also fertile ground for high-potential start-up firms. A 2013 RTCC-sponsored survey of the cluster found that 14 percent of the region’s cleantech operations belonged to firms founded in the past five years. Small businesses develop products and services that enable them to interact with larger cleantech corporations as buyers, suppliers and strategic partners. To this end, our board of directors and membership includes small and medium sized companies such as **Field2Base**, **PowerSecure**, **Power Analytics** and **OSisoft**.

RTCC provides a supportive arena for entrepreneurs to present ideas, showcase solutions and tap connections in the venture capital community. This year, the NC State Office of Technology Transfer led RTCC’s entrepreneurship working group. We were a key sponsor, and organized the expertise of our member companies to judge, the U.S. Department of Energy’s ACC Clean Energy Challenge, in partnership with Triangle universities.

We interface with local economic development partners to sustain the region's reputation as a magnet for the world's most creative and productive technology professionals.

► **Workforce and Talent**—RTCC works closely with colleges and universities in aligning curricula with the cluster's downrange manpower needs. We interface with local economic development partners to sustain the region's reputation as a magnet for the world's most creative and productive technology professionals. RTCC collaborates with workforce readiness organizations in ensuring a viable local pool of cleantech-ready workers. Talent and workforce issues have been a priority consideration for RTCC, supported by Capital Area Workforce Board, the Research Triangle Energy Consortium, and Wake EDC, leaders of our talent and workforce working group.

Select activities:

- » 4 workforce and talent working group meetings
- » Launched survey to characterize workforce needs among regional cleantech companies

► **Market Intelligence**—Accurate and timely insights inform RTCC's long-range growth strategy. In 2013, cluster leaders engaged the expertise of **RTI International** in conducting an exhaustive survey of clean technology assets and opportunities across the region. The resulting 57-page report, *Characterizing Smart Transportation, Smart Water and Smart Grid in the Research Triangle Region, North Carolina*, complements other research RTCC has commissioned in shaping a data-driven blueprint to guide cluster development.

► **R&D Facilitation and Demonstration**—The Research Triangle's myriad R&D assets lie at the heart of cleantech firms' competitive advantage. They include the NSF FREEDM Systems Center at

NC State University, the Wireless Research Center, NC Solar Center and Advanced Energy. RTCC can connect emerging technologies and solutions with opportunities for demonstration and testing.

► **Project Partnerships**— We also support next-generation solutions on a community-wide scale through our Project Partners program. This has been the case at Chatham Park, a 7,800-acre development on the drawing board near Pittsboro. As an RTCC project partner, Chatham Park designers have access to a wide array of potential systems and solutions, as well as the RTCC imprimatur as a replicable prototype for a 21st century cleantech community.

► **State and National Outreach**—In promoting the region as a cleantech destination, RTCC taps the expertise, credibility and contacts gained through Research Triangle Regional Partnership's nearly 25 years of experience in business leadership, regional marketing and global outreach. RTCC leaders provided a vocal, visible presence on behalf of the cluster at prominent industry-related events, trade shows and meetings in North Carolina and around the U.S.

Select activities:

- » Served as panelists and advisors at North Carolina's State Energy Office sustainability conference
- » Keynoted the Association of State Energy Research & Technology Transfer Institutions conference
- » Delegate to federal energy roundtable discussion in Washington, D.C.
- » Presented at the Net Zero Cities conference, Fort Collins, Colorado





▶ **International Networking**—The challenge of allocating the world’s resources in an economically viable, environmentally sustainable way transcends national boundaries. As one of only two U.S. regions invited to participate in the International Cleantech Network, RTCC officials joined other global cleantech pioneers at the group’s 2013 meetings in Hamburg, Germany and Fort Collins, Colorado. As active members in the Network, RTCC and its companies have direct access to world’s leading cleantech regions.

Select activities:

- » Led cleantech economic development mission to Paris, France, in partnership with Bank of America, Schneider Electric and Research Triangle Regional Partnership.
- » Guest blogged the Meeting of the Minds conference on urban sustainability in Toronto

▶ **Policy Education**—The region’s rich base of academic and governmental leadership also lends a competitive advantage to our cleantech cluster. RTCC is working to play a key thought-leadership role in shaping public policy at the local, state and national levels. Its work in 2013 included briefings and feedback to North Carolina legislative leaders and a U.S. Senator. We’ve worked to keep state, county and municipal economic development officials up-to-date on the emerging policy and incentive needs of companies in the cluster.

▶ **Membership Development**—RTCC leaders enjoyed success in the ongoing recruitment of new members, adding two directors and seven members since the launch of our member campaign in September, 2013. Membership growth brings new ideas and perspective, and it helps broaden our financial base. Collaborative opportunities multiply as additional companies and organizations take part.

RTCC’s board of directors approves new applicants for membership once assured there is an alignment of our mission and objectives.

Directors:

- ▶ **ABB, Inc.**
- ▶ **Cisco Systems, Inc.**
- ▶ **Duke Energy**
- ▶ **Field2Base, Inc.**
- ▶ **Itron, Inc.**
- ▶ **NC State University (ex officio)**
- ▶ **Piedmont Natural Gas**
- ▶ **Power Analytics Corporation**
- ▶ **PowerSecure International**
- ▶ **RTI International**
- ▶ **SAS Institute, Inc.**
- ▶ **Schneider Electric**
- ▶ **Sensus**
- ▶ **Siemens**

Members:

- ▶ **Burkhead Brand Group**
- ▶ **ElectriCities of North Carolina, Inc.**
- ▶ **Kilpatrick Townsend & Stockton, LLP**
- ▶ **McKim & Creed, PA**
- ▶ **North Carolina Electric Membership Corporation**
- ▶ **O’Brien/Atkins Associates**
- ▶ **OSIsoft, LLC**

Partner:

- ▶ **Preston Development Company**



Looking Ahead. Now entering its second year, RTCC builds upon a solid organizational foundation and program framework. We will continue to grow our membership and network of partners, reaching out to additional sources of ideas, insight and support. In further sharpening RTCC’s program of work, the region’s cleantech economy will grow and draw sustained recognition from inside the region and around the world.

BOARD OF DIRECTORS:



MEMBERS:



RESEARCH TRIANGLE
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» Transformation Through Collaboration

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