



north carolina  
**Green Business Fund**

**FISCAL YEAR 2012 REPORT ON THE COMMITMENT,  
DISBURSEMENT, AND USE OF FUNDS**

<b>Citation of Law or Resolution:</b>	S.L. 2007-323
<b>Section Number:</b>	s. 13.2(a)
<b>Due Date:</b>	Sept. 1, 2012
<b>Submission Date:</b>	Sept. 1, 2012

**Receiving Entities:**

The Joint Legislative Commission on Governmental Operations  
The chairs of the House of Representatives and Senate Finance Committees  
The chairs of the House of Representatives and Senate Appropriations Committees  
The Fiscal Research Division of the General Assembly

**Submitting Entity:**

North Carolina Board of Science & Technology of the Department of Commerce

**Introduction:**

Established by the North Carolina General Assembly during the 2007-2008 legislative session and currently completing its fifth year of operation, the North Carolina Green Business Fund awards competitive grants to North Carolina small for-profit businesses, non-profit organizations, and State and local governments to encourage the development and commercialization of promising green technologies in the following three designated priority areas:

1. The development of the biofuels industry in North Carolina;
2. The development of the green building industry in North Carolina;
3. Attracting and leveraging private sector investment and entrepreneurial growth in environmentally conscious clean technologies and renewable energy products and businesses.

Consistent with the reporting requirements set forth in §143B-437.8 of the North Carolina General Statutes, this report details the commitment, disbursement and use of funds allocated from the NC Green Business Fund during the period July 1, 2011 – June 30 2012 (“Fiscal Year 2011-2012” or “FY2012”), and includes a report of disbursed funds committed to the awardees in previous years.

**Eligibility requirements and review process:**

The North Carolina Board of Science & Technology, a division of the North Carolina Department of Commerce, administers the Fund. An applicant must satisfy four conditions in order to be eligible to apply for the program:

1. The applicant must be eligible to apply during the Solicitation period and have its principal place of business in North Carolina.
2. An applicant cannot apply for a second award for activity for which the applicant has already received an award.
3. Any applicant that, in the judgment of the Board, has failed to correct a material breach of an award agreement or of any grant agreement under any program administered by the Board or the State of North Carolina is ineligible to submit an application.
4. Applicants are required to satisfy any other eligibility requirements established by the Board and published in a Solicitation.

To be eligible for funding, applicants must demonstrate that:

- The proposed project is technically sound and to be undertaken by an applicant with the necessary technical, financial and management capacity;
- The proposed project is undertaken in a collaborative and innovative manner as appropriate;
- Any new technologies and any related intellectual property developed during the performance period will be commercialized in a timely manner in relevant market sectors; and
- The funding is necessary to ensure that the project proceeds in a manner to ensure broad benefits to North Carolinians.

Solicitations are issued by the Board, inviting eligible applicants to submit an application and written proposal for an award. Under the Fund, awards can be made to eligible organizations for up to the maximum amount of \$100,000 (maximum amount of \$500,000 under the ARRA-funded 2009-2011 solicitations). An Advisory Committee, composed of scientists, engineers, and qualified experts

(including industry, academia, and other Government agencies) drawn from across the state from both inside and outside of the Board, evaluates the merit of proposals. To avoid any potential conflicts of interest between the applicant and the prospective reviewer, reviewers are required to sign a Conflict of Interest and Nondisclosure Agreement with the Board, and to recuse themselves from review of any proposals that may pose a conflict of interest.

### **Program Impact**

Although the NC Green Business Fund has only been in operation since 2008, initial data show that the program is having a significant impact in developing and sustaining a green economy in this state. Twenty-five award winners have completed their projects and submitted their final reports to date. The total amount awarded to these 25 organizations is \$1.6 million. Data from their final reports indicate the following actual, not projected, impact measures. Collectively, these small businesses:

- Created and retained 97 jobs;
- Leveraged \$15M in external capital investments;
- Generated over \$15M in follow-on funding (existing or in negotiation) from external investors;
- Applied for 9 patents and received three copyrights;
- Developed and deployed innovative commercial technologies in numerous areas including solar, wind, biofuels, clean water management, and energy efficiency. These technologies
- Produced the following impacts:
  - First Year Energy Cost Savings (\$) 794,502
  - Greenhouse Gas & Criteria Air Pollutant Emissions Reduced (tons, CO<sub>2</sub>-E) 8,335
  - Jobs Created, ARRA Funds (hrs) 42,459
  - Jobs Created, Leveraged Funds (hrs) 17,644
  - Number of Wind Turbines Installed (#) 12
  - Capacity of Installed Wind Turbines (MW) 0.02
  - Energy Generated by Wind Turbines, annually (MWh) 0.24
  - Number of Solar Photovoltaic Systems Installed (#) 15
  - Capacity of Installed PV Systems (MW) 0.60
  - Energy Generated by PV Systems, annually (MWh) 114
  - Number of Biomass Systems Installed (#) 4.00
  - Capacity of Biomass Systems Installed (MW) 0.81
  - Energy Generated by Biomass Systems, annually (MWh) 2,380
  - Number of Buildings Retrofitted (#) 104
  - Area of Retrofitted Buildings (sq.ft.) 1,413,258
  - Number of Geothermal Systems Installed (#) 1
  - Capacity of Geothermal Systems Installed (tons) -
  - Number of Solar Thermal Systems Installed (#) 17
  - Capacity of Solar Thermal Systems Installed (sq.ft.) 1,440
  - Reduction in Electricity Demand (MW) 0.57
  - Reduction in Electricity Consumption (MWh) 3,929
  - Reduction in Fuel Oil Consumption (gal) 11,762
  - Reduction in Natural Gas Consumption (MMcf) 1,321
  - Number of Training Sessions Held (#) 102
  - Number of Attendees at Training Sessions (#) 37,445
  - Number of Audits Conducted (#) 1,484
  - Area of Buildings Audited (sq.ft.) 487,623
  - Auditor's Estimated Energy Savings Potential (MWh) 90,338

Most of these companies are small and still growing, albeit rapidly; therefore the impact of the Green Business Fund will multiply as more companies benefit, grow, and realize full commercial potential.

### **Sample Testimonials**

*“Semprius has benefitted greatly from its interactions with the Green Business Fund, whether from the actual award money, the publicity generated from the award, the focus of the Green Business Fund funding process on creating jobs in North Carolina, or from the interactions with the diligent and accessible Fund staff. It is clear, through interactions with the Green Business Fund, that the State Government is highly attentive to facilitating business growth in North Carolina.”*

**~Semprius, Durham**

*“Our NCGBF award has been fundamental to our success. The award made it possible to transition our wastewater treatment and recycle system prototype into an automated production model that is simple to operate and that consistently produces clarified water that has less heavy metals than the EPA's threshold for drinking water.”*

**~ Clean Marine Solutions, LLC, Wilmington**

*“In a time that was very difficult for my industry in general (automotive manufacturing), the NCGBF allowed my company to develop products that has me well positioned for the increased activity I have seen in the last 6 months. I have been able to hold on and grow my product offering with new technology because of the grant.”*

**~ Aerofab Manufacturing, Apex**

### **State appropriations**

In FY 2007-2008, and FY2008-2009, respectively, the NC General Assembly appropriated \$1 million to the Green Business Fund for each of the fiscal years, of which \$50,000 was allocated to a grant administrator position. In each year, the remaining \$950,000 was awarded to North Carolina small businesses as described in the table below.

For awards made using state appropriations, 50% of the grant total was disbursed upon the initial award announcement, 25% was disbursed upon receipt of an interim report (usually at the six-month mark), and the final disbursement of 25% was made upon receipt of a final report.

### **General Funds and American Recovery and Reinvestment Act (ARRA) funds**

For FY 2009–2010 and FY 2010-2011, respectively, the General Assembly directed that \$5 million of American Recovery and Reinvestment Act (ARRA) dollars be allocated to the North Carolina Green Business Fund each year as part of the Department of Energy's State Energy Plan (SEP).

During this period and inclusive of FY 2011-2012, a total of 47 awardees were funded with ARRA funds, totaling \$ 9,431,482.91. The remaining \$568,517.09 (~5%) was set aside for administrative costs (ARRA allows up to 10% administrative costs). Funds were disbursed to awardees on a reimbursement basis, as the awardees incur expenses. All ARRA-funded projects were complete by March 31, 2012.

**Commitment and Disbursement of funds**

<b>Organization Legal Name</b>	<b>Project Title</b>	<b>Organization City</b>	<b>Organization County</b>	<b>Total Grant Amount Committed</b>	<b>Committed Fiscal Year</b>	<b>Amount Disbursed in FY 2012</b>
3F, LLC	Light-Weight Bio-Based Fiber-Reinforced Concrete	Raleigh	WAKE	\$100,000.00	2008	\$25,000.00
Alganomics, LLC	Implementing Renewable Energy Measures in Algae Processing Systems	Southport	BRUNSWICK	\$70,500.00	2009	\$57,620.60
Builders of Hope	State Street Villas	Raleigh	WAKE	\$100,000.00	2009	\$19,545.95
Carolina Solar Farms	Solar Roof Top Installation at Elizabeth City State University	Raleigh	WAKE	\$100,000.00	2009	\$57,191.79
Carolina Wind Power	Wind Turbine Demonstration Project	Wilmington	NEW HANOVER	\$70,000.00	2009	\$15,586.68
Centralina Council of Governments	Greater Charlotte Region Biofuel Facility	Charlotte	MECKLENBURG	\$85,000.00	2009	\$42,500.00
EcoMaintenance LLC	Energy Efficiency and Renewable Energy Education for Rural North Carolina	Elizabeth City	PASQUOTANK	\$68,345.00	2009	\$5,457.75

Highland Craftsmen Inc.	Improvement of Energy Efficiency of Drying Kilns	Spruce Pine	MITCHELL	\$73,975.00	2009	\$5,900.00
Innova Homes, LLC	ENGINEERING AND IMPACT ANALYSIS OF HYBRID MODULAR HOME MANUFACTURING	Asheville	BUNCOMBE	\$51,160.00	2009	\$12,790.00
North American Bio-Energies, LLC dba Foothills Bio-Energies, LLC	Implement Energy Efficiency Measures at Foothills Bio-Energies	Lenoir	CALDWELL	\$98,687.00	2009	\$43,874.63
Piedmont Biofuels Industrial, L.L.C.	Reduction of Electrical Consumption and Optimization of Boiler Operation and Controls	Pittsboro	CHATHAM	\$100,000.00	2009	\$9,853.01
SBM Solar, Inc.	Friendship Trays Photovoltaic Installation	Concord	CABARRUS	\$50,000.00	2009	\$3,774.35
Solar Center	ATTRACTING INVESTMENT THROUGH REMOVAL OF A KEY OBSTACLE IN THE SOLAR INDUSTRY	Raleigh	WAKE	\$95,000.00	2009	\$23,750.00
SunQest, Inc.	Facility Insulation and Energy Efficiency Project	Newton	CATAWBA	\$74,300.00	2009	\$24,209.11

Triangle Biofuels Industries, Inc.	Biodiesel Process Pump Equipment and Hot Water Efficiency Improvement Project	Wilson	WILSON	\$99,783.00	2009	\$87,762.09
AgPower, LLC	Vestal's Renewable Energy Electrical Generating System	Cary	WAKE	\$369,050.00	2010	\$87,900.73
Black Farms	Black's Renewable Energy Electrical Generating System	Bunnlevel	HARNETT	\$295,130.00	2010	\$295,130.00
Butler Farms	Butler's Renewable Energy Electrical Generating System	Lillington	HARNETT	\$373,780.00	2010	\$373,780.00
Cape Fear Green Building Alliance	Operation Green Reach	Wilmington	NEW HANOVER	\$155,000.00	2010	\$81,256.89
Community Development Specialists Incorporated	Small Wind & Solar For WNC Farms in Distressed Communities	Asheville	BUNCOMBE	\$148,480.00	2010	\$43,724.66
Energy Tight, LLC	Marketing and Measuring the Benefits of Home Energy Retrofits to the Private Residential Market	Charlotte	MECKLENBURG	\$155,755.82	2010	\$104,790.42
Essential Energy Efficiency Technologies & Services	Energy Efficiency Acceleration Project	Charlotte	MECKLENBURG	\$55,000.00	2010	\$34,327.31

Go Green Lighting LLC	Energy Efficient Audits and Lighting Lab Expansion	Chapel Hill	ORANGE	\$300,000.00	2010	\$208,923.00
Kyma Technologies, Inc.	Green Manufacturing of Gallium Nitride Materials for High Electrical Efficiency Applications	Raleigh	WAKE	\$427,760.00	2010	\$395,436.02
Microcell Corporation	Portable Combined Heat and Power (CHP) Systems for Emergency and Disaster Recovery Applications	Raleigh	WAKE	\$484,120.00	2010	\$149,912.78
Onslow County Farmers Market Inc.	Photo-voltaic panel installation	Jacksonville	ONSLOW	\$24,095.89	2010	\$17,424.89
Praxis Technologies Inc.	Plug In Hybrid Vehicle Charging Stations:	Raleigh	WAKE	\$247,304.00	2010	\$201,733.22
Riding Partners, Inc	BioWheels RTS (Responsible Transportation Systems)	Asheville	BUNCOMBE	\$375,852.56	2010	\$333,952.71
Signature Place, LLC	Signature Place, LLC Lighting Retrofit and Solar Installation	Greensboro	GUILFORD	\$143,000.00	2010	\$7,150.00
Southern Energy Management, Inc.	Comprehensive Whole-Building Energy Efficiency Retrofits	Morrisville	WAKE	\$374,129.00	2010	\$338,078.67

108 South Main Street, LLC	108 + 110 South Main Street Renovation	Durham	DURHAM	\$134,200.00	2011	\$127,490.00
Builders & Manufacturers Group, Inc	Builders and Manufacturers Group of Lenoir (BMGL) , Green Manufacturing Complex Lighting Retrofit / Energy Conservation Project	Lenoir	CALDWELL	\$175,000.00	2011	\$166,250.00
Central Park NC	STARworks Center Lighting Retrofit	Star	MONTGOMERY	\$202,625.00	2011	\$202,625.00
Charlotte East LLC	Charlotte East LLC Interior and Exterior Lighting Upgrade	Charlotte	MECKLENBURG	\$162,652.00	2011	\$151,519.40
ClearSense Properties, LLC	502 Rigsbee Energy Efficiency Renovation	Durham	DURHAM	\$480,205.00	2011	\$480,205.00
First Flight Venture Center	FFVC Green Energy Improvement Plan	Durham	DURHAM	\$130,770.00	2011	\$130,770.00
Foothills Wineworx, Inc.	Winery Goes Green with Solar Thermal, PV and Energy Efficient Windows	Glen Alpine	BURKE	\$239,560.00	2011	\$227,582.00

Highland Craftsmen Inc.	Bark House Renewable Energy Implementation and Education Initiative	Spruce Pine	MITCHELL	\$154,800.00	2011	\$147,834.00
Home Performance NC	The Chatham-Lee Small Business Energy Retrofit	Moncure	CHATHAM	\$118,365.00	2011	\$60,332.14
Inviro Design & Consulting	Cool Roofs Initiative & Body Tech Retrofits	Asheville	BUNCOMBE	\$436,940.00	2011	\$412,462.16
Lawrence Lumber Company Inc.	Lawrence Lumber Company Energy Efficient Predryer	Maiden	CATAWBA	\$230,000.00	2011	\$218,500.00
Mountain Heritage Expo Center	Project Green: Mountain Heritage Expo Center	Micaville	YANCEY	\$378,020.00	2011	\$359,119.00
Mountain Valleys Resource Conservation and Development, Inc.	Wind for Schools Workforce Development Project	Marshall	MADISON	\$101,135.00	2011	\$101,134.91
North Carolina Propane Gas Association	NC Propane Gas Association Green Building Project	Raleigh	WAKE	\$286,385.00	2011	\$270,483.49
Signature Place, LLC	Signature Place, LLC Lighting Retrofit and Solar Installation	Greensboro	GUILFORD	\$143,000.00	2011	\$135,850.00

Sports Palace Ventures LLC	Sustainability Project for Energy Efficiency and Renewable Energy For A Youth And Adult Sports Facility	Apex	WAKE	\$146,297.00	2011	\$137,898.05
Storms Farms	Storms' Renewable Energy Electrical Generating System	Bladenboro	BLADEN	\$500,000.00	2011	\$193,606.00
The Blue Ridge Sustainability Institute	The Asheville Green Restaurant Initiative	Asheville	BUNCOMBE	\$258,140.00	2011	\$218,677.78
<b>Total</b>				<b>\$9,443,301.27</b>		<b>\$6,850,676.19</b>