North Carolina Innovation Council

Making North Carolina the state where innovation thrives

Initial Recommendations

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THRIVE in NORTH CAROLINA

Contents

Background

Now more than ever, North Carolina's future depends on our *ability to create and adopt new products, services and business models that yield value*. That's "innovation," and our state's private and public leaders, our people and organizations, must commit to making it happen here each and every day. Our economic development and quality of life, which are intertwined with dynamic global forces, depend on it.

In almost every sector in which North Carolina has been a leader during the 20th century—textiles and apparel, furniture, electronics, pharmaceuticals, banking, research & development services, and others—we have lost, or are beginning to lose, our competitive advantage to other nations. This "offshoring" is due primarily to a dramatically changing 21st century global economy and our state's role within it. As new, improved, and more efficient production techniques, communication technologies, and transportation modes have spread worldwide, the world has become "flat": markets have shifted from being national to global in scope, competition has become dramatically more intense and agile, and the sources of value and economic advantage have changed significantly.

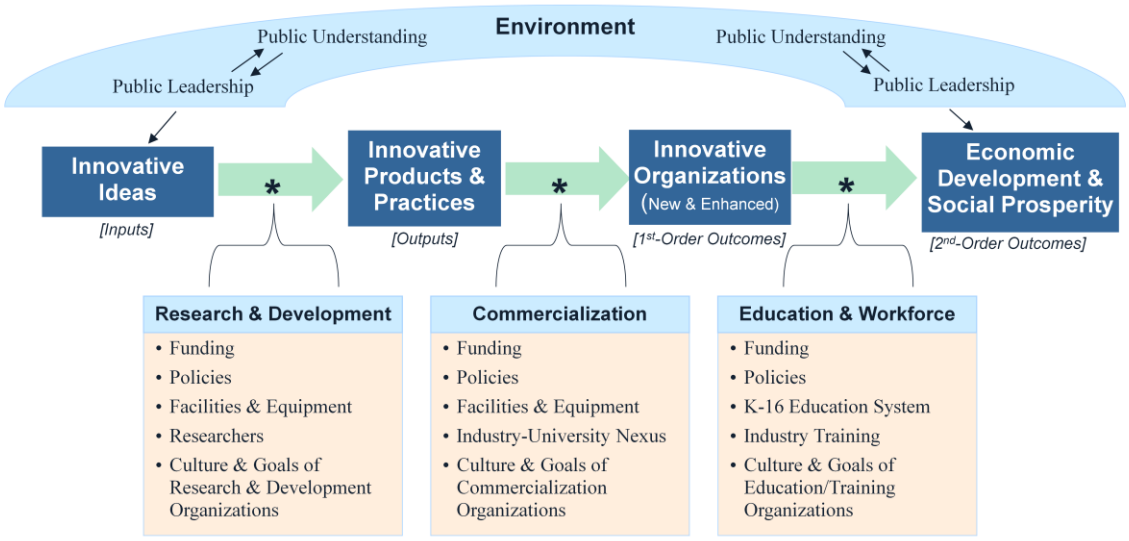
While these changes are unsettling—both economically and socially—they also create a tremendous opportunity for North Carolina. Specifically, faced with a dynamic and uncertain future, the best approach is to shape it rather than be shaped by it. This is the surest way to promote economic development and social prosperity for all of North Carolina's citizens.

North Carolina Innovation Council

Establishment and Duties

Recognizing that North Carolina must stay on the cutting edge of innovation in order to remain globally competitive, in November 2009 Governor Beverly Perdue formed, via Executive Order number 29 (Exhibit 1), the **North Carolina Innovation Council**. As part of the Governor's JOBS NOW initiative, the Council is charged with recommending ways to strengthen North Carolina's "innovation ecosystem"—the complex and dynamic collection of people, organizations, policies, and programs that create innovative ideas, translate those ideas into innovative products and practices, build new companies and organizations to move those ideas forward, and nurture those new organizations to help them create jobs and (Figure 1). At each point in this ecosystem, innovation may require alignment of existing public and private assets behind a common vision, strategic investments, supportive policies, culture change and persistence, and a concerted effort to listen to, learn from, and lead key stakeholders.

Figure 1. North Carolina's Innovation Ecosystem



More than most states and nations, North Carolina already has in place many of the people, organizations, policies, and programs necessary for responding to the global innovation challenge. They simply need to be enhanced, optimized, and realigned to foster and accelerate the spread of innovation, both within government and externally throughout the state's economy to the broader society. The North Carolina Innovation Council's charge is to recommend the best ways to make this happen.

Accordingly, as outlined in Executive Order 29, the duties of the Council are to provide the Governor with advice, counsel, and recommendations regarding the following matters:

(1) Aligning investments in public and private innovation programs strategically;

(2) Facilitating access to bridge funding and technical assistance that move high-potential product concepts into the commercial marketplace faster;

(3) Eliminating redundancy in programming to reduce unnecessary overhead and optimize the funds invested in outcome-driven research and commercialization;

(4) Making strategic investments and policies to build world-class research and development enterprises, aid the development of a scalable collaborative communications network infrastructure, encourage and foster collaboration among academia and industry, commercialize innovative products and practices, and cultivate human capital in North Carolina;

(5) Identifying gaps in North Carolina's technology portfolio;

(6) Measuring outcomes to align performance of the programs;

(7) Facilitating access to information and resources on the State's innovation agenda;

(8) Encouraging state agencies to communicate and collaborate with one another to unify the state around a strategic innovation and competitiveness agenda; and

(9) Facilitating collaboration among state, local, private, and federal agencies on a shared innovation agenda.

In addition, Executive Order 29 empowers the Council to:

- Champion the importance of innovation, as well as coordinate promotion and communication of the State's successes to its citizens and other audiences;
- Convene cross-functional groups of policy, academic, and business leaders to elicit information and strategic policy initiatives that accelerate the progression of innovative ideas to economic development and social prosperity;
- Assist in devising methods to identify, promote, and recruit potential enterprises and individuals to bring to North Carolina to augment innovation clusters and economic growth throughout the state;
- Develop ideas and recommendations on policies to cultivate and retain innovative researchers, entrepreneurs, and enterprises within the state—in the public, private and nonprofit sectors and throughout the state; and
- Develop criteria to measure performance relative to strategic goals and, where the state has invested heavily in innovation policies, improve coordination of those policies to optimize the benefits the state receives from its investments.

Membership, Themes, and Process

Executive Order 29 states that the Council is to be comprised of no fewer than 26 and no more than 35 members appointed by the Governor. Co-chaired by Al Delia, Senior Advisor to Governor Perdue, and Steve Nelson, Managing Partner, Wakefield Group, the Council includes 33 members from key sectors across the state (Exhibit 2). The Governor's Policy Office, the Department of Commerce's (NCDOC) Office of Science and Technology, and the Treasurer's Office provide staff support, facilities, and resources for the Council.

Beginning its work in January 2010, the Council adopted the following mission:

> ***North Carolina will become the go-to place for innovation, the place where the world looks to create the "next big thing" and to solve its greatest problems, a state thriving with innovative people, companies, organizations and culture. It will become the next great place to live and work, to start and grow an organization: a place where innovation is embraced and championed and where people come to make their innovation dreams come true.***

To help North Carolina achieve that mission, the Council coalesced around three themes as being of paramount importance to fostering continued innovation in North Carolina:

1. **Human Capital**—a high-tech, well-educated workforce, especially with up-to-date competences, knowledge, and personality attributes that have relevance to, and yield economic value in, the dynamic global economy;
2. **Financial Capital**—growth of dollars in and into North Carolina to invest, especially angel funds, expansion-stage capital, and best-of-breed venture capital firms;
3. **Collaboration**—among universities, businesses, non-profits, and governments, especially in shared areas of interest in pursuing solutions to the world's biggest challenges and opportunities, namely, health and wellness, energy, and the environment.

The Council organized itself into three committees, each working on strengthening one or more key parts of the innovation ecosystem related to those themes.

The **Talent Committee** focuses on human capital, and is looking for strategies that help North Carolina grow, retain and attract more innovative people. Among other issues, the Talent Committee focuses on strategies to ensure that more people emerge from North Carolina's K-12 schools, community colleges, and universities with the skills, experience, and orientation they need to create new products, services, and business models; approaches to ensure that more talented young people stay in North Carolina; and efforts that can make North Carolina a beacon and a welcoming place for people from other states and countries who are looking for a state that supports and nurtures innovation.

The **Growing Innovative Organizations Committee** and the **Recruiting Innovative Organizations Committee** are both looking to create a culture in the state where startups, young companies, and other organizations, such as nonprofits, find the technical assistance, regulations, policies, financial and human capital they need to grow and thrive. Growing innovative organizations may involve improvements to university technology development and transfer efforts, improving access to early-stage financial capital investment programs, better real-time access to knowledgeable technical assistance and support services, increased numbers of talented managers and leaders, and other efforts. Recruitment of innovative organizations from outside the state may involve new proactive targeting of different kinds of organizations, new relationships with equity investors, and improved marketing or other efforts.

Achieving the Council's vision requires both near-term and ongoing actions. In the near term, the Council met three times in different regions of the state (Exhibit 3):

- **January 14** – North Carolina Museum of Natural Sciences, Raleigh
- **February 25** – North Carolina TeleCenter, Williamston
- **March 25** – Alumni House, University of North Carolina at Greensboro

At these meetings, the Council heard presentations from national and local experts on innovation and economic development. For example, Rob Atkinson, Founder and President of the Information Technology and Innovation Foundation (ITIF), a leading non-partisan research and educational institute, provided a high-level overview of innovation patterns, practices, and policies internationally and in the United States. Additionally, two of North Carolina's internationally recognized innovators—Joseph DeSimone, Chancellor's Eminent Professor of Chemistry, UNC, and William R. Kenan, Jr. Distinguished Professor of Chemical Engineering, NCSU; and Jud Bowman, founder and CTO of Motricity and founder and CEO of PocketGear—shared their first-hand experiences and insights on what factors drive innovation and entrepreneurship in North Carolina and how the state can enhance its innovation ecosystem.

Following up on these insights, the Council reviewed North Carolina's innovation-focused policies and programs and prioritized its efforts. In particular, it successfully advocated for increased funding for the One North Carolina Small Business Program and an extension of the Qualified Business Venture (QBV) Tax Credit during the 2010 session of the North Carolina General Assembly. It also began laying the groundwork for other proposals to enhance innovation, new efforts to "grow" more young innovators, nurture and attract more innovative companies, rally public and private support for the efforts, and spread the word about the state's innovation culture.

With the end of the General Assembly's legislative session in June, the Council focused on two longer-term tasks: (1) developing a *North Carolina Innovation Index* (to be released in early 2011) to measure North Carolina's performance across its innovation ecosystem and (2) developing additional, or enhancing existing, policies and programs that will continue to strengthen the state's innovation ecosystem.

It did so through four additional meetings in other regions of the state:

- **July 26** – NASCAR Plaza, Charlotte
- **August 26** – Asheville-Buncombe Technical Community College, Asheville
- **September 29** – UNC Wilmington Marine Science Center, Wilmington
- **October 26 –** Research Triangle Foundation, Research Triangle Park

Drawing upon a variety of statistical indicators, policy reports, input from stakeholders, and best practices in other states and nations, each committee conducted detailed "state of the State" assessments of North Carolina's innovation ecosystem. This work yielded the 10 proposals outlined below, which serve as a near-term agenda for the Governor and the legislature during the 2011 legislative session. The proposals are presented in priority order, based on the votes of the Council members. It is worth noting that the difference between the top-ranked proposal and the proposal ranked 10th was minor. Clearly, each proposal, after thorough exploration and evaluation by the Council, had considerable merit

While many of the proposals require executive support and legislative action, others recommend ways to create "public-private partnerships": government services or private business ventures funded and operated through a partnership of government and one or more private sector companies. These proposals are intended to serve as a substantive "front-burner" action plan.

Initial Recommendations

1. One North Carolina Small Business Program

What gap are we addressing? Lack of early-stage capital for small businesses developing and commercializing new, innovative technologies.

What's the recommendation? Appropriate, on a *recurring* basis, sufficient funding to the One North Carolina Small Business Grant Program (the Program) to support all matching grant applicants at or near 100 percent of the amount of their federal SBIR or STTR award.

Why does it make sense? The Program is long-standing, well-run, and efficient, with a proven track record. It awards matching grants to NC small businesses that have received a federal Phase I Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) award. Combined, these two highly competitive, peer-reviewed programs are the single largest source of early-stage capital for U.S. small businesses. Their funds may be used only for certain purposes, however, which limits their impact. Thus, leveraging the federal programs with State matching funding greatly enhances the successes of NC small businesses. Moreover, companies receiving SBIR/STTR grants have success rates that are much higher than for most tech start-ups, and several companies have noted that they started in/relocated to NC because of its matching program.

Since its beginning in FY 2006, the Program has awarded 200 matching grants, with a total value of more than $15 million, to hundreds of small businesses throughout NC. The grants are helping awardees to create and retain jobs, conduct proof-of-concept work, obtain patents and issue licenses, collaborate with research institutions, and finance business operations, marketing, and sales.

To date, 114 projects, receiving more than $9 million in State matching funds from the Program, have been completed.[1] This support has helped the recipient small businesses to:

- Create and retain more than 200 additional jobs—most at the managerial, scientific, or technical level;
- Make an additional $14 million in internal capital investments;
- Leverage more than $38.7 million in external capital investments and $41.8 million in Phase II federal SBIR/STTR funding **(i.e., for every $1 of state funding, an additional $9 in external funding)**.

To fund all applicants in a given State fiscal year at the maximum amount allowable under its Guidelines, the Program needs $5 million. For much of its five-year existence, the Program has been funded at, or close to, that level. In FY 2010 and 2011, however, it received significantly less: $700,000 and $1.5 million, respectively.

Nuts and bolts: NC Board of Science & Technology will continue to administer the Program and report its impacts.

Build out over time: Continue this well-run program and make refinements when needed.

Timetable: To be recommended for the 2011 legislative session.

Responsibility: Board of Science & Technology.

Cost/payfor: State appropriations; $5 million annually on a recurring basis.

[1] The remaining 86 are still in progress.

2. R&D/Innovation Tax Credit

What gap are we addressing? Limited incentive and ability for businesses, primarily small ones, to undertake R&D and innovation; underutilization of the NC's existing R&D credit—in terms of small businesses accessing the credit and businesses partnering with NC's notably strong universities to undertake R&D.

What's the recommendation? Update NC's R&D tax credit to focus more on small businesses and university R&D and to make it at least competitive with, if not more competitive than, similar tax credits in countries and states. The following suggestions are a menu of options that could be implemented separately or together:

- Make the small business portion of the R&D credit refundable;
- Expand the definition of "small business" in the statute to include more businesses;
- Increase the credit rate for the small business portion of the R&D credit;
- Increase the credit rate for R&D conducted in a NC university;
- Aggressively market the credit, particularly the university R&D portion of the credit.

Why does it make sense? Tax incentives entail less interference in the marketplace than do other policy tools and typically have a higher degree of political feasibility than do direct payments to businesses. There is a broad consensus among economists that the R&D tax credit is an effective tool to spur more private sector research. Virtually all studies conducted since the early 1990s have found that the credit is an effective tool and that, at minimum, it produces at least one dollar of research for every tax dollar forgone. Some studies have found even greater benefits, with the research investment to tax-cost ratio between 1.3 and 2.9. Moreover, because a given company cannot appropriate all the benefits from conducting R&D, some of those benefits spillover to other companies, thus generating additional benefits to society.

Tax credits for R&D expenses were first enacted into U.S. federal law in 1981. In the ensuing three decades, many states and countries have adopted such credits, often using the federal tax credit as a model. Not only have R&D tax credits been offered by an increasing number of state and countries, but the average generosity of the credits that these credits has also grown greatly. Specifically, the average effective credit rate has grown approximately four-fold over this period. NC needs to modify its existing credit to remain competitive.

Nuts and bolts: Work with NC Department of Revenue (DOR) to prepare fiscal analyses for each option above.

Build out over time: Continue to monitor the impact of the credit and make refinements when needed.

Timetable: To be recommended for the 2011 legislative session.

Responsibility: Board of Science &Technology and Commerce's Policy, Research & Strategic Planning division.

Cost/payfor: ~$20 M annually in credits taken. Further fiscal impact analysis is needed to estimate the costs of modifications. Based on DOR data from CY 2007–CY 2009, preliminary indicators are as follows:

- Between CY 2007–CY 2009, 167 taxpayers (13% of total) identified themselves as "Small Businesses" for the purposes of the R&D credit, generating $3.21 million in credits;
- Between CY 2007–CY 2009, 52 returns indicated that the associated R&D was university-related. This represents 4% of all returns processed during this period, generating $19.53 million in credits;
- If the definition of "small business" is expanded and the credit for R&D in universities increased, the costs associated with these categories will likely increase;
- Making the small business credit refundable will increase the immediate liability because it will no longer be taken incrementally over time.

3. Qualified Business Venture (QBV) Tax Credit

What gap are we addressing? Funding gaps for the seed, startup, and very early-stage capital required to launch and develop growth companies. These primary job generators develop and commercialize new, innovative technologies that lead to new industries and transform current industries. Many traditional funding sources have moved upstream to larger deals, however, creating a gaps /barriers to company formation.

What's the recommendation? Raise the annual overall QBV cap from *$8 to $10 million* and expand the existing QBV tax credit to allow credits for a new class of *institutional* investors, in addition to individual investors, for capital investments in:

- Angel funds and VC funds specially chartered as Qualified Grantee Businesses (QGBs);
- Individual QBV-designated companies.

Why does it make sense? The QBV tax credit offers investors in certain types of businesses (i.e., QGBs/QBVs) a credit against state tax liability, which can be as much as 25% of the amount invested.[2] The QBV tax credit is a proven economic development program, sought after in other states, that currently provides an added incentive for individual investors to invest directly in QBVs or through angel funds or seed and early stage venture funds (QGBs) into seed, startup, and very early-stage companies. Since the funding gaps require more capital than individual angel investors or angel funds can provide on their own, innovative mechanisms for encouraging the investment of capital and expertise from a new class of *institutional* investors needs to be an integral part of our state's economic development program. Moreover, a QGB that attracts institutional investors with NC activities may help attract other such investors to NC who like the dynamics even though they cannot directly benefit from QBV.

In 2008, innovation-based companies in NC collectively attracted more than $561 million in funding from angel and venture investors. Between 1999 and 2008, angel and venture-backed companies in NC attracted more than $7.6 billion in VC investments and other private equity funding.

Nuts and bolts: Allocate $8 million to individual investors and $2 million to institutional investors with unused credits reallocated to the other sector to: (1) achieve the desired impact and (2) avoid unintended consequences. QGB Credit status is awarded to funds making investments in seed, startup & very early stage companies who limit investments to less than $2 million in a particular company.

Build out over time: Continue to monitor the impact of the credit and make refinements when needed.

Timetable: To be recommended for the 2011 legislative session.

Responsibility: Board of Science & Technology, SBTDC, NCBIO, and potentially others.

Cost/payfor: Annual cap at $10 million. Before negative fiscal impacts of the exclusion are realized, the State is likely to derive material revenue gains from: (1) impact from capital not covered by QBV, which follows these early higher-risk QBV-related equity investments, (2) built in delays in claims for the credit that typically precede initial investor cash-outs, and (3) anticipated exits delayed by an adverse economy but previously powered by QBV. The cap increase is timely, as funds work hard raising capital in 2010 and coming years, and as NC needs the QBV to tip tough investment decisions during tough times.

[2] In order for the investor to be eligible for the credit, the investment must be made in a business registered with the Securities Division as a Qualified Business Venture (QBV), Qualified Grantee Business (QGB), or a Qualified Licensee Business (QLB).

4. Strategic, Targeted Recruitment

What gap are we addressing? NC needs more high-growth, high-impact, capital-backed (particularly SBIR/STTR and venture capital-backed) companies.

What's the recommendation? Explicitly target companies of this type in a *strategic, proactive* fashion.

Why does it make sense? NC currently has little in the way of a formal, strategic recruitment strategy. Instead, it typically is more reactive than proactive—driven more by the needs of the companies than by the needs of NC. Moreover, there is little competition among states intentionally looking to recruit small firms, which study after study has shown create the majority of net new jobs.

Nuts and bolts: The NCDOC Business & Industry Development (B&I) Division leads the state's business recruitment and expansion efforts. Statewide and regional developers offer comprehensive facility location services from initial contact through site selection to future growth & expansion.

Commerce's Marketing division works closely with B&I to position NC as a preferred business location in order to generate inquiries and leads that result in new business investment and jobs. Several tactics are employed to meet these objectives, including online marketing, business development missions, site selection consultant/corporate executive events, trade shows, etc.

Recognizing the need to be more proactive, Commerce's B&I division is in the process of taking a vacant economic developer position and creating a Client Development Manager that will assume the following responsibilities:

- Follow up on marketing inquiries and leads at the conclusion of marketing events;
- Make targeted outbound calls;
- Coordinate international leads;
- Transition leads to client services.

The Council recommends that, in fulfilling these responsibilities, the Client Development Manager should focus dedicated time to recruiting small, growing businesses from out of state. For example, assisted by Commerce's Policy, Research and Strategic Planning (PRSP) division and Board of Science & Technology, the Client Development Manager could identify target companies from public records of SBIR/STTR recipients and proactively recruit them to relocate to NC. In addition, NC's existing SBIR/STTR matching fund program could be used as a recruiting tool. Although the program currently benefits only those companies whose principal place of business is in NC, the existing legislation could be amended to permit funding "if a company sets up primary headquarters in NC within six months of receiving SBIR/STTR funding." Such efforts would yield a steady stream of new, small young, innovative companies into NC.

Build out over time: Implement focus outlined above, track impacts, and refine as needed.

Timetable: Hire Client Development Manager by end of 2010.

Responsibility: NCDOC senior staff, including the Secretary, Deputy Secretary, Assistant Secretary for Business & Industry, Assistant Secretary for Policy, Research and Strategic Planning, and Executive Director for Science & Technology.

Cost/payfor: No additional funding needed. Refocusing of existing staff position within NCDOC.

5. Small Business Startup Tax Credit

What gap are we addressing? Limited incentive and ability for organizations, primarily companies, to start or locate in NC.

What's the recommendation? Establish a new tax exclusion for capital gains on stock acquired by founders and investors in qualifying NC start-up companies. Basing eligibility for such a "founders' credit" on the State's existing QBV (see recommendation 3 above) would effectively target the proposed incentive to investors in start-up companies with disproportionate potential for rapid growth and high job creation.

Governor Perdue's two most recent proposed State budgets included a similar provision which, for various reasons, did not become law. But its benefits remain and should be pursued again.

Why does it make sense? A founders' credit has several benefits:

- Improves availability of start-up capital by encouraging individuals to invest in NC start-up companies;
- Provides tax credits only for successful ventures;
- Start-ups that do not succeed will not realize gains and will not receive tax benefits;
- Would spur economic growth and job creation before credits are taken;
- Would place more capital in the hands of experienced investors who have previously invested in successful start-up companies;
- Would encourage the creation of companies that will attract follow-on investments, and subsequent taxable gains, from venture funds and public equity markets;
- Would have minimal initial fiscal impact if eligibility is limited to investment after date of enactment.

Nuts and bolts: Eligibility would be limited to investors and companies qualified under NC's existing QBV tax credit. The exclusion would be available only for investments made after the effective date of the proposed legislation, and would provide for recapture of QBV credits taken by investors at the time of their investment.

Build out over time: Continue to monitor the impact of the credit and make refinements when needed.

Timetable: To be recommended for the 2011 legislative session.

Responsibility: Board of Science & Technology, NCBIO, SBTDC, and potentially others.

Cost/payfor: Annual cap at $10 million. Seed and other early stage investments in start-up companies are in the range of $50,000 to $1,000,000. Typically, these initial investments are followed by subsequent equity rounds funded by venture capitalists and public equity markets. In 2008, start-up companies in NC attracted more than $564 million in funding from angel and venture investors. Since 1999, angel and venture-backed companies in NC have attracted more than $7.6 billion in follow-on investments, excluding IPOs. The proposed legislation would make nearly all such follow-on investments ineligible for the proposed exclusion. Therefore, although the fiscal impact of the proposed exclusion will be driven largely by small, early stage investments, the overall economic impact of the proposal will be driven by follow-on investments likely to be exponentially larger. Taxation of these cash flows may well result in additional state revenues that substantially offset, or even exceed, the fiscal impact of the proposed exclusion. Moreover, because follow-on equity investments will typically precede initial investors' cash outs, the state is likely to derive material revenue gains from the proposed exclusion even before negative fiscal impacts of the exclusion are realized.

6. Leverage Intellectual Capital of Mentors

What gap are we addressing? By having a volunteer mentoring organization, made up of both retired and currently employed business professionals, we can greatly improve the chances of business success for thousands of North Carolina businesses. The result is the creation of new jobs and revenue as well as protecting current jobs by growing sustainable high impact companies.

What's the recommendation? Enable economic innovation by providing a North Carolina-wide online network of seasoned business executives. A volunteer mentoring organization, made up of both retired and currently employed business professionals, will greatly improve the chances of business success for thousands of North Carolina businesses. The result will be the creation of new jobs and revenue, as well as protecting current jobs by growing sustainable high impact companies. In addition, new technologies will be deployed and new investment will be made in these companies.

Why does it make sense? North Carolina has many programs that teach entrepreneurship and help with business plan development. Yet it still lacks adequate services that help entrepreneurs when they are actually in the act of starting and managing their businesses. The objective of the mentoring service is to assist entrepreneurs during the operational phases of running their companies. This is where business failure occurs and where there is a deep need for help.

North Carolina creates nearly 27,000 new companies per year. About 6,500 of them could grow to become high-impact employers with between 5 and 100 employees. Most of these companies cannot afford business consultants in their early stages of market maturity.

Nuts and bolts: Mentoring services could include:

- Advising entrepreneurs on their business ideas in their formative phase;
- Determining necessary research to understand their market opportunities;
- Developing an effective business model and business strategy;
- Identifying marketing, sales, prototyping and financing needs;
- Helping create appropriate business infrastructure and advising on business operations;
- Providing guidance on governance and protecting intellectual property;
- Providing management guidance for their business decisions;
- Referring entrepreneurs to business resources throughout North Carolina.

Build out over time: Word of mouth and success will virally spread both participation and use by companies. SBTDC informed to provide information to entrepreneurs seeking assistance. NCDOC and other organizations will advertise the network.

Timetable: Vision finalized first quarter 2011. Development of the network finalized by end of second quarter 2011, operational by the end of 2011.

Responsibility: Discuss initially with NCDOC to explore best path, potentially utilizing Regional Partnerships. Council for Entrepreneurial Development (CED) is underway with MIT's Venture Mentoring Program. This is focused on RTP, work with NCDOC to leverage this and other mentoring programs across the state.

Cost/payfor: State appropriations; $50,000, to be matched by private donations/foundations for development of the system and marketing.

7. North Carolina Green Business Fund (GBF)

What gap are we addressing? Lack of early-stage capital for NC small businesses developing and commercializing new, innovative green technologies.

What's the recommendation? Appropriate, on a recurring basis, $3 million annually to the GBF.

Why does it make sense?
On the initiative of then-Lieutenant Governor Beverly Perdue, the NC General Assembly established the GBF in 2007. A competitive grants program, it awards up to $100,000 per project to businesses with fewer than 100 employees, nonprofit organizations, local governments, and State agencies. Its goal is to encourage the expansion of small to medium-sized businesses to help grow a green economy in the state in three priority areas: *biofuels, green building, and environmentally conscious clean technology/renewable energy products.*

In its first two years, FY 2008 and 2009, the GBF awarded 27 grants, with a total value of more than $1.9 million, to organizations throughout NC. The grants are helping awardees to create and retain jobs, conduct proof-of-concept work, obtain patents and issue licenses, collaborate with research institutions, and finance business operations, marketing, and sales.

To date, 16 projects, supported by $1.1 million in GBF funding, have been completed.[3] This support has helped the recipients:

- Create and retain more than 40 additional jobs, most at the managerial, scientific, or technical level;
- Make an additional $2.5 million in internal capital investments;
- Leverage more than $1.7 million in external capital investments and $13 million in follow-on funding **(i.e., for every $1 of state funding, an additional $13 in external funding).**

In FY 2010 and 2011, the GBF is funded by the American Recovery and Reinvestment Act (ARRA) through the U.S. Department of Energy. These funds are part of the State Energy Program, however, which restricts expenditure of funds to energy efficiency and renewable energy measures, and *specifically prohibits funding projects that utilize technologies not yet commercially available*. Thus, the program currently cannot support environmentally friendly projects that lack an energy component, nor can it support technology development and commercialization. In addition, no State funds were appropriated for 2011.

The Green Business Fund is a highly competitive program: In 2009, for example, the GBF received a total of 299 pre-proposals requesting over $25 million in funds. Continued State funding for this program is crucial if NC is to be a leading state in developing and commercializing innovative green technologies.

Nuts and bolts: NC Board of Science & Technology will continue to administer program and report its impacts, particularly on the growth of the green sector in NC.

Build out over time: Continue this well-run program and make refinements when needed.

Timetable: To be recommended for the 2011 legislative session.

Responsibility: Board of Science & Technology.

Cost/payfor: State appropriations; $3 million annually on a recurring basis.

[3] The remaining nine are still in progress.

8. Global Ambassadors

What gap are we addressing? North Carolina can't grow all the innovative talent and companies we need to have a strong economy in the 21st century, existing economic development staff is inadequate to locate the full range of potential prospects who might want to move to the state, and prospects for substantially increasing recruitment staff in the future are unlikely. But consider these numbers: in 2009, 965,000 people took international trips from North Carolina; in 2008, the number was 1.2 million. This doesn't capture the number of people driving to Canada or Mexico or the tens of thousands of military deployments travel to destinations across the country and around the world that are politically and strategically important to businesses and government in the State of North Carolina.

What's the recommendation? We should create an "opt-in" network (with clear rules and guidelines) – made up of a small percentage of the business executives, academics and political leaders who have scheduled business interactions with countries/areas important to the state, and provide them with information they could use to "market" the state to others as attractive for investment, providing them the opportunity to generate new leads and potential business opportunities for the state.

Why does it make sense? NC economic development staff will find some of the companies that might move to North Carolina, and some companies and people will find us without any effort on our part, but through a tiny investment of additional time and resources, we could potentially dramatically increase the number of leads and activity related to North Carolina from strategic industry sectors or geographic areas. An innovative program to connect business leaders to other business leaders in various geographies, on behalf of the business priorities of the State of NC, offers a high frequency of interaction, accelerates business alliances, and is scalable to other geographies and programs.

Nuts and bolts:

- The International Affairs Council will manage the program, building off its 37-year track record of connecting NC leaders with leaders from abroad. Working with NCDOC's International Trade and Business and Industry to outline the specifics of the program, the IAC will develop training modules, drawing on expertise at NC Center for International Understanding, membership of Leadership NC and other groups. Working through a nonprofit will assist with private fundraising and limit risk.
- Program should be developed first for a single country (China), then expand over time, eventually addressing five strategically chosen regions (might include China/Asia, Brazil/South America, India, Canada; US locations like Boston, Silicon Valley, Austin), then spreading to be more comprehensive.
- Key elements should include: defined guidelines, program metrics, strategic funding for program commitment; program description, expectations; metrics to determine success, value, ROI; limited numbers ensuring quality, scarcity (credentialing event, report back mechanism etc.).

Build out over time: Well-organized, recurring effort, the program will be closely coordinated by NCDOC, with clear strategic goals and success in meeting them.

Timetable: Communications plan, budget, training developed winter 2010-11; pilot rollout (in China) in Summer 2011. Review after Year 1.

Responsibility: International Affairs Council, NCDOC International Trade, with advice and support from other private and public sector entities, including NC Center for International Understanding and Jeff Frazier (Cisco).

Cost/payfor: $100,000 nonrecurring from State for 2011-12 for China pilot; if successful, expand program 2012-13, seeking $100,000 recurring and additional private funds.

9. Talent Bank

What gap are we addressing? Neither North Carolina nor any other state has a comprehensive database of talent: a real-time complete database of skill sets and capabilities that are geo-locatable. Prospective employers and planners have no real way of determining the inventory of talent and skills within a geography. The key challenge for growing innovative companies, whether they are already in North Carolina or are considering moving here, is being confident they can find the talent they need to fuel their growth. Existing databases capture unemployed people (NC Employment Security Commission), who constitute one portion of the potential talent pool, or national talent pools (Monster.com, Career Builder, etc.), but there is not a rich, vibrant database that portrays the full range of North Carolina talent, currently employed and unemployed. Having such a database would help NC with recruiting and retention of innovative businesses, with workforce planning and with retention of talent.

What's the innovation*?* NC Talent Bank would be an NC-specific career and talent portal that enables NC residents to voluntarily post their resumes and skills. The database would enable subscribing authorized employers, instate and out of state to look for the exact talent they need to grow their company. The database would also be accessible to economic and educational planners as they survey locations and determine pockets of skills or the need to develop targeted educational programs.

Why does it make sense? Having such a database would enable talented North Carolinians who are considering a move to learn about other options in a low-risk environment; it would enable companies looking for talent to find North Carolina-based talent to meet their needs, reducing relocation costs for them. As the database becomes more robust, the portrait it paints of the available or potentially available workforce of a particular region has will enable economic development entities to approach corporate prospects with actual data on talent, or to identify deficits in the region's talent pool that it can begin to proactively address. Statewide developers would have more robust, real-time data to draw on as they attempt to advise prospects on where they can most effectively meet their employment needs. Regional and local economic developers and chambers could easily market this new free economic development service to their members.

Nuts and bolts: Development plan should be coordinated by NC DOC in consultation with ESC, NC education entities, NC Chamber and others. Marketing will be critical, but much could happen through use of bully pulpit, social media strategies, use of public resources to encourage listings, etc. Local chambers, economic developers and workforce boards could play a valuable role.

Participants would have the opportunity to post their resume online or create a web-based career profile or complete a job skills and capabilities input document; participation by talent posters would be voluntary, and information could be masked at the discretion of the individual; access to the NC Talent Database for employers would require a verification and subscription process; access to the NC Talent Database for economic and education planners would be controlled by the NCDOC.

Build out over time: Word of mouth and success will virally spread both participation and use by employers.

Timetable: Need greater input on appetite for site, preliminary budget figures prior to advancing effort.

Responsibility*:* Site should be owned by the State, with management inside NCDOC and oversight by a public-private board, partnerships with NC Chamber, public and private colleges and universities, and support from NCSU.

Costs/payfor*:* NC Division of Workforce Development discretionary funds or General Fund. Startup $1 million year one; $500,000 recurring thereafter.

10. Innovation Non-Profit

What gap are we addressing? North Carolina's initiative to transition to an innovation-based economy cannot reach critical mass if we view the effort as a discrete, time-limited, near-term project. It will require a strong, compelling vision, intentional, ongoing commitment and dedicated staff to sustain that vision and implement programs and policies. The Innovation Council has no staff.

What's the recommendation? We need a public-private nonprofit staffed by a small group that wakes up every day ready to implement the state's innovation vision, focusing on several key areas of influence or impact – large enterprises, entrepreneurial firms, government, education and organizations focused on social benefits. A clearly-defined innovation vision will define what innovation is, what we expect as outcomes and where it will be beneficial.

***Why does it make sense*?** Innovation must be sustained and innovation ideas must be applied if innovation is to take root and to have a longer-term impact. For the work of the Innovation Council to succeed, and for North Carolina to take a leadership position and fuel innovation in the state, there must be a longer term dedicated program in place to advocate for innovation and create policy, recommend legislation, highlight successes and fund new innovation programs. A number of other states, including Rhode Island and Oklahoma, have created public/private partnerships to sustain innovation focus. This structure removes the innovation program from the election cycles and allows innovation to be a focus over a longer period of time.

Nuts and bolts:

- Review, revise, finalize and share the initial draft of the Innovation Vision statement;
- Define the non-profit that will take up and support the vision and sponsor/advocate innovation;
- Find public and private funding for the non-profit.

Build out over time:

Get to scale: The non-profit should be staffed with three people within six months scaling up to a staff of five to seven people within a year.

Build programs and offerings: Based on the vision and the targeted areas for innovation, the non-profit should begin to draft ideas, programs, policy, potential legislation and identify the leading organizations who are already innovating in these fields. The non-profit should develop its programs to sponsor innovation and encourage innovation in every field within North Carolina.

Innovation Network: The non-profit should identify other existing agencies, programs and organizations that can become part of its network, including organizations like CED and NCTA, the Institute for Emerging Issues, the North Carolina IEP and many others.

Timetable: Vision finalized in the winter of 2010, development of the non-profit by end of first quarter 2011, fully staffed by the end of 2011. Initial programs, policy and best practice identification by 3rd Quarter, 2011.

Responsibility*:* Leslie Boney, John Hardin and Jeffrey Phillips (OVO, Inc.) would form the original working group, inviting others to join as interested.

Costs/pay for*:* $300,000 recurring from General Fund State appropriations; matched with $200,000 private funding for first year. Evaluate success at end of biennium. Expansion would come from private contributions and revenues from services or training.

Future Directions/Past Successes

With the Research Triangle Park (RTP) as its hallmark, North Carolina has an international reputation for innovation. A key reason is that the state has in place many of the organizations and relationships central to the innovation process. Going forward, we must continue to learn from them, continue to strengthen them, and continue to replicate and build upon them throughout the state.

Innovation needs to take place on multiple levels in multiple sectors. Building on North Carolina's strengths, catalyzing partnerships across sectors, and fostering regional industry clusters are critical activities in any effort to embrace and maximize innovation as an engine of economic growth. The examples below show what happens when we work collaboratively, combining private sector capital, energy and innovation with insightful thinking and action by government agencies, private laboratories, and research universities. Here are a few that illustrate how collaboration has spurred innovation in North Carolina, and how it is setting the stage for our future success.

The North Carolina Biotechnology Center (NCBC), established in 1984 by the North Carolina General Assembly and based in RTP, was the world's first government-sponsored biotechnology center. Its main mission is to provide long-term economic and societal benefits to North Carolina through support of biotechnology research, business and education. NCBC has several programs and initiatives focused on or related to promoting innovation.

- The Science and Technology Development Program supports biotechnology research at North Carolina's universities and institutions through grant programs and intellectual exchange activities.
- The Business and Technology Development Program supports North Carolina bioscience companies through funding, technology assessment, strategic partnerships, business plans, networking, venture capital, site locations and professional referrals.
- The Education and Training Program promotes workforce preparedness and public understanding of biotechnology through instructor training, teaching materials, grants programs, needs assessments and other activities at all educational levels throughout North Carolina.
- NCBC operates five regional offices across the state (greater Charlotte, Eastern, Piedmont Triad, Southeastern, and Western). These offices help their regions identify needs, goals and core competencies; draw on the programs and activities of the Biotechnology Center; and coordinate advisory committees to guide biotechnology development.
- The Centers of Innovation Program is designed to establish research and commercial hubs for products and processes deemed especially well-suited to creating biotechnology-related jobs across the state. These awards are intended to catalyze the state's efforts in the research and commercialization of strategically selected sectors, such as nanobiotechnology, marine biotechnology, and advanced medical technologies.

The North Carolina Research Campus (NCRC) is a private-public venture located on the 250-acre site of the former Pillowtex Plant in Kannapolis North Carolina. It was created in 2004 by David H. Murdock, owner of Dole Foods Corporation, to establish a world class collaborative research hub for nutrition, health, and biotechnology research. In 2008 the 300,000 square-foot David H. Murdock Core Laboratory, which houses the world's largest Nuclear Magnetic Resonator, began its operations. The NCRC is designed to "foster a culture of innovation," drawing on the existing strengths and resources of the region and by building upon partnerships with institutions of higher education, state and local governments, small and large businesses, and the local and greater North Carolina community. NCRC's culture of innovation has attracted six public and one private North Carolina universities that have established world-class research facilities on the campus. NCRC acts as an ideal catalyst for industry-academia partnerships where private sector companies seek to transfer innovations from the laboratory to the marketplace while having access to state and federal small business funding programs along with NCRC's own venture fund.

The Piedmont Triad Research Park (PTRP) is currently home to 55 companies and organizations, including Wake Forest Institute for Regenerative Medicine (tissue and organ engineering and stem cell research), Targacept (neuronal nicotinic receptors for the treatment of disorders of the central nervous system), CET LLC (intelligence, defense, homeland security and life sciences), just to name a few. It is located in Winston-Salem's downtown business district and centered in the North Carolina Technology Corridor, PTRP expansion plans, led by Wake Forest University Health Sciences, are underway to revitalize its 230 acres over the next 20-30 years. Currently, the PTRP community encompasses six buildings providing over 554,000 sq. ft. of wet lab, office, meeting and residential space. PTRP is home to 42 technology tenants and collectively employ over 850 university and corporate personnel from around the globe.

Charlotte's Greentech Energy Hub is making gigantic strides at becoming the "new energy capital" in the state. Charlotte's Greentech Energy Hub pulls from each of its regions innovative strengths from the 248 companies tied to the energy sector currently in the region, the Energy Production and Infrastructure Center that educates workforce and encourages research, the ample power grid supply that is abundant through Charlotte's strong set of energy generation facilities, and its research abilities with EPRI and the University of North Carolina at Charlotte both having a strong reputations in power education and research. The bottom line is that Charlotte region's electric, gas, engineering, research and educational resources create a national energy industry hub.

The Innovate at Carolina campaign, launched by UNC-Chapel Hill Chancellor Holden Thorp, was created with the goal of focusing UNC's prowess in multidisciplinary research into innovations that solve our world's most pressing problems. Through this critical effort, Chancellor Thorp and his leadership team have illustrated the importance of turning ideas, and research, into actual products and services that improve our lives. After a year of deliberations campaign members known as the Innovation circle which consisted of alumni and friends with extensive experience leading innovation in science, business, medicine, nonprofits and academia developed an innovation roadmap that consisted of five major recommendations. The recommendations were:

- Prepare faculty, graduate and undergraduate students, staff and the broader Carolina community with the knowledge, skills and connections to translate ideas into innovation;
- Collaborate with diverse groups on campus to explore issues, options and creative approaches that may lead to innovations;
- Translate important new ideas into innovations that improve society more expediently and at an increased volume;
- Align people, incentives and processes to strengthen an intentional culture of innovation at Carolina; and
- Catalyze innovation at Carolina by facilitating the work of faculty, staff and students as they put important ideas to use for a better world.

Chancellor Thorp stated the roadmap's recommendations would foster and support a campus culture that remains true to the University's historic mission even as it invites faculty, staff and students to build upon it with their own visions for making the world a better place.

The Innovators Academy (IA) is part of East Carolina University's Office of Engagement, Innovation and Economic Development, which works to create partnerships that fuel creativity, innovation and entrepreneurship throughout Eastern North Carolina. The Innovators Academy brings ECU students and faculty from diverse disciplines together to work on solving complex problems and designing innovative products for a variety of industries. Through an intensive eight-week program, the IA enhances participants' ability to communicate innovative design ideas effectively and increase the marketability and value of innovations. By bringing together ECU's new Innovation Design Lab, a technology-facilitated ideation environment, and a similar facility at NC State University's College of Design, the two campuses can work together to support innovation, new product development and economic transformation for eastern North Carolina. In the summer of 2010, ECU and NCSU worked together to create the Middle School Innovators Academy to extend the IA to regional middle school students, teachers and guidance counselors. Through a five week afterschool program and an intensive two week Innovation Workshop the Middle School Innovators Academy led middle school innovators through the entire process of identifying real world needs, developing solutions, conducting initial patent searches and developing their ideas into full renderings ready to be produced. ECU plans on expanding these offerings in the future.

The Center for Rapid Prototyping, part of Western Carolina University's Kimmel School, provides technical assistance to companies, organizations and entrepreneurs who need help with product development, modeling, rapid prototyping, laser machining and re-engineering. Over the past five years the center has worked with more than 250 businesses on projects ranging from a new form of artificial siding for houses to a device to help patients with rehabilitation from knee surgery and from packaging for a Christmas tree ornament company to developing tiny fiber-electronic connectors.
Most recently the reputation of the Rapid Center led to the decision of VSE, a Brazil-based renewable energy company, to locate its US headquarters on the Western Carolina campus. The company will work in Western laboratory space with school faculty in a public-private partnership focused on engineering a new turbine power system that works on renewable energy sources, and could lead to location of a manufacturing facility in the region. Other future products of the partnership could include a new form

of turbine that would produce not only non-polluting energy, but fresh drinkable water from sources such as salt water, brackish water and industrial effluent.

Future Directions

The 10 proposals above address the most pressing issues that can be attended to in the short term and also have significant impacts. At their core, they focus on building public-private partnerships, encouraging financial and informational investments in North Carolina's innovative people and organizations, and encouraging collaboration among the various actors.

In tight budget times, these proposals are imperative because, rather than creating large capital and programmatic expenditures, they would efficiently and effectively strengthen North Carolina's innovation ecosystem by better aligning and utilizing its existing innovation assets, thereby maximizing the state's innovative potential. They would make the most of what the state already has in place.

Moving forward, the Council will broaden its focus to additional structural issues that will help ensure North Carolina has the foundational pieces in place to remain innovative for the long term. To this end, it will continue to consider proposals developed by its three committees and others in the state. Examples include:

- Establishing **innovation network models** across the state to promote the spread and adoption of innovative product and process technologies within small and medium-sized organizations;
- Developing a **competitive innovation matching grants program**—funded collaboratively by industry, government, and academia—to provide support for development, commercialization, and growth of new technologies that lead to job creation in targeted and strategically important industry sectors for North Carolina;
- Initiating an **innovation-focused marketing campaign** to build more "buzz" around North Carolina as a hotbed for R&D and innovation and maximize the impact of North Carolina's existing resources, support, and environment for R&D and innovation;
- Working with the North Carolina Treasurer's Office to ensure that the **North Carolina Innovation Fund** allocates a significant portion of its investment portfolio to funding for new, emerging, innovation-focused companies in the state;
- Advocating and providing funds for the continuing development and marketing of the **UNC Millennial Campuses**, which provide synergistic research, development, innovation, and commercialization environment at each UNC institution by allowing them to build research facilities and occupy them with private-sector partners;

- Supporting the repurposing and funding of **technology transfer platforms** in the state's universities to encourage them to focus more on company and industry engagement, job creation, and enhanced quality of life for all North Carolinians;
- Making concerted efforts to recruit **regional/national headquarters of innovation-focused financial organizations,** such as venture capital firms and sovereign wealth funds, to the state;
- Developing an explicit North Carolina **innovation-focused technology workforce agenda and strategy** that align education and workforce programs around clusters, particularly those the determined to be in the strategic interests of the state;
- Establishing clear **STEM (Science Technology, Engineering and Math) education targets** for North Carolina students;
- Structuring a **STEM Education matching-investment program** to encourage private sector partnerships with education institutions to help seed students' interest in the STEM fields in which most jobs are expected to be created in the next decade;
- Strengthening the alignment of the **General Assembly's committee and staff structure** with the needs of the 21st century innovation economy;
- Developing **strategies and programs to retain highly-skilled immigrants,** who account for a disproportionate share of the innovation and new business creation;
- Working with the Institute for Emerging Issues to further develop and propel innovation-focused organizations and programs, such as its **Creativity Task Force and the Emerging Issues Prize for Innovation**;
- Enhancing the **Innovation Fellows Program,** which puts newly graduated students in business, law, accounting and entrepreneurship to work in innovative startup organizations, with the aim of getting them hands-on experience.
- Advocating and supporting North Carolina's three **comprehensive cancer centers to collaborate** for greater and quicker advancements in knowledge and application of that knowledge. With more constrained budgets there are advantages for these institutions to cooperate to maximize available resources. All centers (Duke, UNC Chapel Hill, and Wake Forest) have representation on the Innovation Council. Collaboration amongst these centers could become an opportunity to create a real advantage for NC.

In light of increasing global competition and the large-scale investments that other countries and states are making in their innovation frameworks, North Carolina will need to continue to increase its innovation-focused investments in programs such as these as resources permit. Leading competitive countries are investing in innovation at the rate of two percent to five percent of Gross Domestic Product (GDP). This is a benchmark to keep in mind as we move forward with equipping North Carolina to be a global leader in innovation-based economic development and social prosperity.

The Council will remain in effect until November 26, 2013. It is committed to putting in place the institutions and programs needed to ensure North Carolina is the next great place to live and work, to start and grow an organization: a place where innovation is embraced and championed and where people come to make their innovation dreams come true.

Exhibit 1

State of North Carolina

BEVERLY EAVES PERDUE
GOVERNOR

EXECUTIVE ORDER NO. 29

ESTABLISHING THE NORTH CAROLINA INNOVATION COUNCIL

WHEREAS, amidst increasing economic competition from other states and countries, North Carolina must aggressively pursue and leverage innovation, the creation of new ideas and the translation of those new ideas into products, processes and services with economic value, as a means to grow and diversify its economy through the 21st century; and

WHEREAS, in the transition to a knowledge and innovation economy, the State has responded by making strategic investments in infrastructure, institutions, and human capital; however, the constantly and rapidly evolving nature of our technology industries requires new perspectives and approaches to stimulate technological innovation advancement in the State of North Carolina; and

WHEREAS, North Carolina has the intellectual capital and facilities to foster research and innovation, yet, the State must establish an institutional and policy framework that maximizes the potential of its assets to accelerate the progression and transformation of innovative ideas into economic development and prosperity; and

WHEREAS, given the broad scope and interdependence of innovation-related activities such as targeted research investments, commercialization efforts, entrepreneurship services, risk capital development, and the development of new, high-growth industry segments, sustained and coordinated statewide leadership across various sectors is needed to strategically advance North Carolina's innovation agenda; and

WHEREAS, the Office of Science and Technology of the North Carolina Department of Commerce's Advancing Innovation in North Carolina report in December 2008 calls for coordinated leadership for a well-functioning innovation framework.

NOW, THEREFORE, by the authority vested in me as Governor by the Constitution and laws of the State of North Carolina, **IT IS ORDERED**:

Section 1. Establishment

The North Carolina Innovation Council (hereafter the "Council") is hereby established. The Council members shall serve at the pleasure of the Governor. The Council shall be comprised of no fewer than 26 and no more than 35 members appointed by the Governor, as follows:

a. The Governor or designee;
b. Two Representatives from the State Senate;
c. Two Representatives from the State House of Representatives;
d. The Secretary of Commerce or designee;
e. The State Treasurer or designee;
f. Three representatives from the North Carolina Board of Science and Technology;
g. Three representatives from the North Carolina Economic Development Board
h. One representative from higher education;
i. One representative from K-12 education;
j. One representative from local government;
k. Two representatives from high-tech, innovative businesses;
l. Two representatives from the venture capital, financing or intellectual property community;
m. Two representatives from non-profit and/or trade organizations interested in innovation and economic development; and
n. Any other member(s) as the Governor deems appropriate.

Section 2. Officers

The Governor shall appoint a Chair, Vice-Chair, or Co-Chairs of the Council as she or he deems appropriate.

Section 3. Duties and Responsibilities

The duties and responsibilities of the Council shall include, but not be limited to, the following:

a. Provide the Governor with advice, counsel and recommendations regarding the following matters:

    (1) Aligning investments in public and private innovation programs strategically;
    (2) Facilitating access to bridge funding and technical assistance that move high-potential product concepts into the commercial marketplace faster;
    (3) Eliminating redundancy in programming to reduce unnecessary overhead and optimize the funds invested in outcome-driven research and commercialization;
    (4) Making strategic investments and policies to build world-class research and development enterprises, aid the development of a scalable collaborative communications network infrastructure, encourage and foster collaboration among academia and industry, commercialize innovative products and practices, and cultivate human capital in North Carolina;
    (5) Identifying gaps in North Carolina's technology portfolio;

(6) Measuring outcomes to align performance of the programs;
(7) Facilitating access to information and resources on the State's innovation agenda;
(8) Encouraging state agencies to communicate and collaborate with one another to unify the state around a strategic innovation and competitiveness agenda; and
(9) Facilitating collaboration among state, local, private, and federal agencies on a shared innovation agenda.

b. Champion the importance of innovation, as well as coordinate promotion and communication of the State's successes to its citizens and other audiences;

c. Convene cross-functional groups of policy, academic, and business leaders to elicit information and strategic policy initiatives that accelerate the progression of innovative ideas to economic development and social prosperity;

d. Assist in devising methods to identify, promote, and recruit potential enterprises and individuals to bring to North Carolina to augment innovation clusters and economic growth throughout the state;

e. Develop ideas and recommendations on policies to cultivate and retain innovative researchers, entrepreneurs, and enterprises within the state – in the public, private and nonprofit sectors and throughout the state; and

f. Develop criteria to measure performance relative to strategic goals and, where the state has invested heavily in innovation policies, improve coordination of those policies to optimize the benefits the state receives from its investments.

Section 4. Meetings

The Council shall meet at regularly scheduled quarterly meetings, and at the call of the Chairs or the Governor.

Section 5. Council Administration and Expenses

a. Council members shall not receive compensation or a per diem for serving on the Council.

b. Support staff, facilities, and resources for the Council shall be provided by the Governor's Policy Office, the Office of Science and Technology, and the Treasurer's Office.

c. All departments, commissions, boards, offices, entities, agencies, and officers of the State of North Carolina, or any political subdivision thereof, are authorized and directed to cooperate with the Council in implementing the provisions of this Order.

Section 6. Implementation and Duration

This Executive Order shall be effective immediately and shall remain in effect until November 16, 2013, pursuant to N.C. Gen. Stat. § 147-16.2, or until rescinded.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the Great Seal of the State of North Carolina at the Capitol in the City of Raleigh, this sixteenth day of November in the year of our Lord two thousand and nine, and of the Independence of the United States of America the two hundred and thirty-fourth.

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Beverly Eaves Perdue
Governor

ATTEST:

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Elaine F. Marshall
Secretary of State

Exhibit 2
North Carolina Innovation Council

Members, 2009-2010

Mr. Al Delia (Co-Chair)
Senior Advisor to Governor Bev Perdue

Mr. Steven Nelson (Co-Chair)
Managing Partner, Wakefield Group

Hon. Allen Joines
Mayor, City of Winston-Salem, North Carolina

Mr. Phil Emer
Director of Technology Friday Institute
North Carolina State University

Ms. Margaret B. Dardess
Associate Provost for Strategic Partnerships
University of North Carolina at Chapel Hill

Hon. Anthony Fox
Mayor, City of Charlotte, North Carolina

Mr. Leslie N. Boney III
Associate Vice President of Economic Development
Research, Policy and Planning
University of North Carolina General Administration

Dr. Richard Stack
Chairman of Synecor

Dr. A. Blanton Godfrey
Dean of the College of Textiles
North Carolina State University

Ms. Karen L. LeVert
Chief Executive Officer of Southeast
TechInventures, Inc.

Mr. Cy Rich
Chief Executive Officer
Fuqua Rick Weeks LLC

Mr. Tim R. Janke
Statewide & Piedmont-Triad Investment
Micro-Angel Fund (IMAF)

Mr. Raymond Jones
Chief Executive Officer
VX Aerospace

Ms. Joan Seifert Rose
Executive Director, CED

Hon. E. Norris Tolson
President and Chief Executive Officer
North Carolina Biotechnology Center

Ms. Janet Cowell
North Carolina State Treasurer

Ms. Linda H. Weiner
Vice President, Engagement and Strategic Innovation
North Carolina Community College System

Mr. Norman R. Cohen
Retired President/CEO, Unitec,
Charlotte, NC

Mr. J. Keith Crisco
North Carolina Secretary of Commerce

Dr. Dianne H.B. Welsh
Founder & Executive Director, North Carolina
Entrepreneurship Center

Dr. Victor J. Dzau
President and Chief Executive Officer
Duke University Medical Center

Sen. Josh Stein
North Carolina Senate District 16

Rep. Joe P. Tolson
North Carolina House of Representatives District 23

Mr. Jeff C. Frazier
Senior Director, Internet Business Solutions Group, public sector practice, Cisco Corporation

Sen. Daniel T. Blue
North Carolina Senate District 14

Mr. William C. Warden
Retired Executive Vice President of Lowe's Companies

Rep. Larry D. Hall
North Carolina House of Representatives District 29

Mr. Robert A. Ingram
General Partner
Hatteras Venture Partners

Mr. Michael Capps
President at Epic Games, Inc.

Mr. Jean–Pierre (JP) Sakey
Chief Executive Officer and President
Headway Corporate Resources

Dr. James H. Johnson
Kenan-Flagler School o f Business
University of North Carolina at Chapel Hill

Mr. H. Lee Durham
Director of Triad Guaranty Inc.

Mr. Michael J. Cucchiara
Managing Partner
Greenbridge Development

Staff

Dr. John Hardin
Executive Director
North Carolina Board of Science & Technology
NC Department of Commerce

Mr. Jay Chaudhuri
General Counsel & Senior Policy Advisor
Department of State Treasurer

Exhibit 3

Innovation Council Meeting Agendas

The Governor's Innovation Council held 7 meetings starting on January 14, 20010 and ending on October 26, 2010.

January 14, 2010
North Carolina Museum of Natural Sciences

Introduction – Governor Bev Perdue
General Overview of Innovation: National and International Trends and Priorities – Rob Atkinson, Founder and President of the Information Technology and Innovation Foundation (ITIF)
Recognized Innovators–

- Joseph DeSimone, Chancellor's Eminent Professor of Chemistry, UNC; William R. Kenan, Jr. Distinguished Professor of Chemical Engineering, NCSU
- Jud Bowman, founder and CTO of Motricity and founder and CEO of PocketGear

Innovation in NC – Leslie Boney, UNC General Administration, and John Hardin, Office of Science and Technology, NC Department of Commerce
NC Innovation Fund Overview – Jay Chaudhuri, Office of the State Treasurer
White Board Session –Led by Innovation Council Co-Chairs Steve Nelson and Al Delia

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February 25, 2010
NC Telecenter 415 East Boulevard
Williamston, NC

Innovation presentation –Northeast North Carolina Commission for Economic Development
Announcements – Al Delia
Committee short and long term recommendations –Al Delia & Steve Nelson

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March 25, 2010
Virginia Dare Room, Alumni House
404 College Avenue, UNCG

Welcome –UNCG Chancellor Linda Brady
Innovation presentation by the North Carolina Piedmont-Triad Partnership – Don Kirkman, President & CEO
Announcements – Al Delia
Innovation Fund –Jay Chaudhuri, Treasurer's Office
Committee Break-out Session
Committee short term recommendations –Al Delia & Steve Nelson

July 26, 2010
NASCAR Plaza
Charlotte, North Carolina 28202

Welcome –Mayor Foxx
University Initiative Presentation –Steve Nelson
Legislative Agenda Update –Al Delia
Committee Discussions –Public Private Partnership Responses and Committee Updates
Regional Partnership Presentation – David Swenson
Wrap-up and Review of Ideas –Al Delia and Steve Nelson

August 26, 2010
Asheville-Buncombe Technical Community College
Asheville, North Carolina 28801

Welcome –The Honorable Terry Bellamy, Mayor and David Wyatt, Chairman, Board of Trustees
Open Remarks –Al Delia and Steve Nelson
Group Discussion – Direction of council/Information/Suggested resources and, or Presentations.
Committee Discussions – Exploring actions to accomplish desired progress/
Design of structures/Making it work.
Regional Partnership Presentation –Scott Hamilton
Entrepreneurial Networks in North Carolina –Ted Zoller, UNC
Wrap-up and Review of Ideas -Al Delia and Steve Nelson

September 29, 2010
UNC Wilmington, Marine Science Center
Wilmington, NC 28403-3297

Welcome –Rosemary DePaolo, Chancellor UNCW
Opening Remarks –Al Delia and Steve Nelson
Southeast Regional Partnership Presentation –Steve Yost, Executive Director, and Dr. Dan Baden, Executive Director, Center for Marine Science, UNCW
Committee Presentations/Recommendations of Priorities
Group Discussion and Voting
Wrap-up and Review of Ideas –Al Delia and Steve Nelson

October 26, 2010
Archie K. Davis Conference Center
Research Triangle Park 27709

Opening Remarks –Al Delia and Steve Nelson
Regional Partnership Presentation –Bo Carson, Vice-President, Research, Research Triangle Partnership
Research Triangle Foundation Presentation –Rick Weddle, President,
Center for Marine Science UNCW Presentation –Dr. Dan Baden, Executive Director
Emerging Issues Presentation -Anita Brown-Graham, Director, Institute for Emerging Issues
Committee Presentations of Priorities
Wrap-up and Review –Al Delia and Steve Nelson