Regional Innovation Clusters
September 25, 2012
Feel Good about SC’s Future

• George Will
• Michael Porter Quote
• Harvard Business School Case Study
• Commerce in 2011
  - $5 Billion in capital investment
  - 21,000 Jobs
  - Exports equaled imports
• Manufacturing has returned
Dr. Michael Porter

- Professor at the Harvard Business School
- World authority on regional/national strategies for competitiveness
- Author of 18 books
- “Most cited business author in the world.”
Porter’s Prioritized Strategy

- Activate and upgrade clusters
- Continue to enhance education and workforce training
- Invest in research and the University system
- Launch internal and external marketing campaigns
- Create an explicit economic development program for distressed areas
- Increase support for start-ups and local firms
- Create new institutions for economic development
- Measure progress in raising prosperity
ECONOMIC STRATEGIES

- **INNOVATION WITH A SOUTHERN ACCENT**, Southern Growth Policies Board, 2006

- **MEASURING PROGRESS IN THE NEW ECONOMY**, Kauffman Foundation, 2007

- **REGIONAL COMPETITIVENESS**
  Milken Institute, Annual

- **ECONOMIC DEVELOPMENT ADMINISTRATION**
  Reauthorization, 2009
COUNCIL ON COMPETITIVENESS

- Formed in early 2004
- 501 (c) 3 Organization
- Ed Sellers, Former CEO of Blue Cross is still Chairman

- Mission: To raise prosperity
  - Find, birth, build and celebrate clusters
  - Improve the business environment
  - Connect the dots
WHAT IN THE WORLD IS A CLUSTER?
Clusters, Innovation, and Productivity
The California Wine Cluster

Source: California Wine Institute, Internet Search, California State Legislature. Based on Research by MBA 1997 Students R. Alexander, R. Arney, N. Black, E. Frost, and A. Shivananda
Why Do Clusters Matter?
Efficiency, Innovation, and Entrepreneurship

Competition is fundamentally enhanced by linkages across firms, industries, and associated institutions
How our clusters will add value to South Carolina's Economic Development efforts

**Recruit**
- New companies locate to SC to be closer to clusters
- Customers & suppliers of cluster companies become strategic recruitment targets
- Leaders of cluster companies become the area's best salespeople
- Institutional knowledge of the industry and industry trends are easier to access by recruiters

**Expand**
- Existing companies in SC grow because clusters are growing
- Development of supplier and talent bases
- Efficient knowledge transfer to industry
- Increase competitiveness of existing industry

**Create**
- Clusters improve the entrepreneurial environment
- New lines of business are more visible
- Supplier and talent base enables ease of transition for spin-offs and start-ups
- University research in clustered industry creates entrepreneurial opportunities
Cluster Overview

- Automotive
- Aviation
- Nuclear
- Transportation, Distribution and Logistics
- Textiles
- Tourism
Automotive Cluster

- 7 OEMs
- 341 Manufacturing Plants
- 1530 Companies

Source: South Carolina’s Council on Competitiveness
CU-ICAR’s vision is to be the premier automotive and motorsports research and educational facility in the world.
Rock Stars

- Dr. Tom Kurfess
- BMW Endowed Chair in Automotive Manufacturing
- Director, Center for Automotive Research
- “Automation is the key to competitiveness”
Tire Companies

- Michelin - North American HQ & Major Research Facility
- Announced in 2012
  - Michelin - $750 mm and 500 jobs
  - Bridgestone - $1 billion and 2000 jobs
  - Continental - $1 billion and 1200 jobs
Endowed Chairs

- Recruiting World Class Talent to the State
- 49 Centers of Excellence
- 41 Endowed Chairs
- Endowment $2 to $5 million each
- Must be matched $1 for $1 with private funds
- To date, $200 million in state funds has been matched with $1.2 billion in outside funds
- Endowed Chairs have created 7000 jobs
How many non-union South Carolinian workers does it take to attach a wing to a Boeing airplane?

Five... and a dog.

Fetch! Fetch the duct tape, you dang lazy mutt! We cain't hold this thing all day long!
Boeing Rollout of 787
Boeing

- 2.6 MW of solar panels on the roof (18,000 panels)
- Clear span for two 787’s side by side.
NUCLEAR CLUSTER

Anchors
Duke
SCANA
Progress Energy
Santee Cooper
Savannah River Site

Suppliers
Shaw
Areva
Westinghouse
GE
100 other identified suppliers

Contractors
Fluor
Bechtel
Carolinas Nuclear industry

- 12 Current Plants
- 11% of the total nuclear power in US
- Seven Proposed Plants
  - 2 Duke Energy (Cherokee County - SC)
  - 2 SCE&G/Santee Cooper (Jenkinsville, SC) (License Approved)
  - 1 Progress (Raleigh)
  - 2 Southern (Augusta) (License Approved)
- Total investment of $35 billion
BIGGE Heavy Lift Derrik (HLD)
BIGGE Derrick

- Can lift 7500 tons
- 560 ft boom
- Buried 6000 ton counterweight
- Heaviest lift ~1700 tons
- Load testing ongoing
Carolinas Nuclear Cluster

- Mapping Supply Chain
- Supplier Conferences (8)
- Carolinas Energy Institute
- Crafting position papers (water, high and low level potential nuclear fuels, Fukushima)
- Newsletters and Publications, including Energize
- Technical Conferences - SMR
- Workforce Initiatives
  - SBA Grant - $600 K/Yr for two years
  - Technical Colleges - grants for workforce
Economic Impact of SC Nuclear Industry - Current

- SC
  - Direct Jobs = 15,000 now
  - Direct Labor Income = $1.3 Billion
  - State and Local Tax Revenues = $.5 Billion
  - Current Average Wage = $78,000/year
Economic Impact of the Nuclear Industry - Future

- SC Future jobs
  - Construction Peak = 3800 jobs each site
  - Operations Phase = 12,400 new jobs
  - 70% of existing technical workforce will be eligible for retirement in 2014
Other Nuclear Initiatives

- Mixed Oxide Facility at SRS - $1.6 billion investment
- Small Modular Reactors
  - Fluor and NuScale are partners
  - Congress authorized $450 million for two SMR grants
  - Reactors 25 MW to 250 MW
  - Will fit on a railcar
  - Can be shipped to remote parts of the planet through the Port of Charleston
Economic Development...
SMR Innovation
Transportation, Distribution and Logistics
sc MUST prepare for 2014
Transportation Plan

- Interstate Plan
- Ports Plan
- Statewide Corridor Plan
- Statewide Freight Plan
- Statewide Rail Plan
- Revenues/Needs Gap Analysis
- Options to Close the Gap
Transportation

- TDL Council to implement recommendations

- Inland port in Greer
  - Lead to BMW near airport
  - Will take 25,000 to 50,000 trucks per day off I-26
  - Huge economic driver
IF TEXTILES & APPAREL ARE DEAD IN SOUTH CAROLINA...

810 INNOVATIVE COMPANIES REFUSE TO LISTEN.

$21.9 billion economic impact proves it.
“South Carolina tourism is a flower waiting to bloom.”

Michael MacNulty
Tourism Development International
300,000 acres of permanently protected open area
181,000 acres of lakes on the West Coast of South Carolina
An Ocean on the East Coast

Cultural and Historical Resources
Tourism Cluster Accomplishments

- Comprehensive plans for each of eight tourism regions

- Destination specific marketing funding model. Two dollars of local money is matched by $1 of State money. Thirty four states have now adopted the model.

- Beginnings of a national marketing program
Clusters are regional
Target Industry Study: Identified Target Clusters

Regional Presence
- Industry Trends
- Specialized Assets
- Local Goals

Advanced Materials
- Metal working and fabrication
- Advanced textiles

Automotive
- Automotive Suppliers
- Diesel Powertrain Mfg
- Auto R&D—fuel effic., batteries, PHEVs
- Boutiques / Specialty OEMs

Biosciences
- Medical Devices
- Biomaterials R&D
- Clinical testing, contract research and mfg.

Energy
- Nuclear Component Mfg
- Renewables: Solar, Wind
- Energy grid component Mfg
- Energy Systems Solutions

All Industries
Clean Energy
Fuel Cells
Nuclear

Healthcare & Health Sciences
Ultrasound
Senior Smart

Informatics & Analytics
Insurance Technology
Health Information Technology

Transportation, Distribution, and Logistics
INDUSTRIES AND COMPETENCIES

The Charleston region’s future economic development targets consist of four vertical industries and five competencies.

The Opportunity Next Strategy will offer recommendations for growing the vertical industries and enhancing the region’s five competencies.

Competency Targets:
- Advanced Materials
- Drive Train & Power Systems
- Software
- Creative Design
- Logistics

Vertical Industry Targets:
- Aerospace
- Biomedical
- Wind Energy
Startups - Current Initiatives

Garry Powers, Chair

- Portal on SC Commerce Website
- State Innovation Plan
- Capital Markets Plan

- SC Launch
  - Invested up to $200,000/company in 193 companies
  - Led to $170,000,000 in follow-up investment
SC/ISRAEL TRADE MISSION
26 Member Team
Lessons Learned

- Need a well-known Champion, preferably from the Big Dog companies
- Need half time paid staff for every cluster
- Look for low hanging fruit. Early successes are important for generating momentum
- Rotate leadership to engage more companies
- Research initiatives are a significant cluster asset
Lessons Learned

• Cluster committees should focus on more than one strategy. If the legislative initiative fails, there are other strategies.
• Ultimate success is aligning State Economic Development Strategy with Porter recommendations.
• SC has 22 cluster committees. Each has their own personality, objectives and benefits to member companies. Don’t try to make them all the same.
Assets

- Strong technical college system
- Leadership in the research universities which is committed to economic development
- Good highway system and the port of Charleston
- Technology assets (SRNL, SPAWAR, Milliken, Michelin, etc.)
- Bridge of international connections - 276 companies from 26 countries in the upstate
- Water
- Weather
- Natural and cultural amenities
“It is a marathon, not a sprint.”

Dr. Michael Porter

www.newcarolina.org
NO LOITERING IN REST AREA