



## 3. Target Industry and Resource Analysis

### Introduction

A target industry strategy helps a community identify potential economic opportunities, assess the resource requirements, and then select opportunities to focus on and further develop the resources required to be successful in enhancing/expanding the opportunities.

As part of the Project Team, Moran, Stahl & Boyer (MS&B) completed the target industry analysis based on the following guidelines:

- Evaluate the existing industry strengths within the Hudson Valley and Capital Region.
- Assess the emerging technology industries that may be derived from regional college/university research activity and state or federal-sponsored R&D initiatives.
- Review the resource requirements of each target industry and size of operation that might be located within Greene County.
- Assess the growth outlook and trends for each potential industry.
- Consider size (micro, mid-size and major), life cycle and business origin (local vs. relocated into the county).
- Identify those industries that have the best fit with the needs, desires and resources available within the three subregions of Greene County. (River Towns, Valley Towns, Mountaintop Towns)
- Position opportunities as immediate, mid-range and long-range for the county based on the availability and development of resources.

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### Target Industry Selection Process



Each community typically has three levels of employers in their local economy, namely, Level 1 (employers that sell products and services outside the community and bring cash flow into the community), Level 2 (service employers that support the Level 1 employers), and Level 3 (service companies that support the residents/consumers within the community).

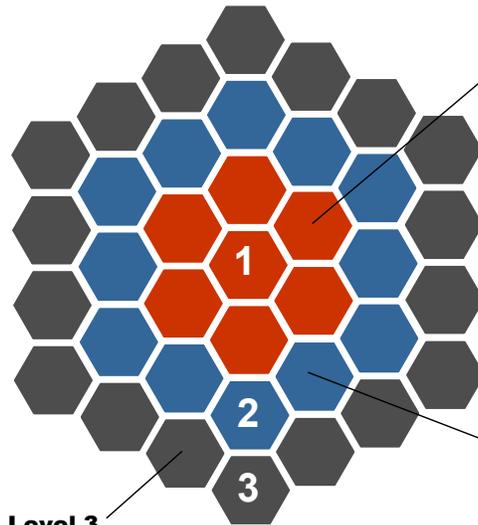
Expanding the local economy requires a balanced growth at all three levels of employers as noted in the figure below. Of particular interest are the Level 1 (Primary Economic Employers) because by definition they generate cash that has been received from sources outside the county. The Level 2 (Secondary Employers) are important because they provide services that support the Level 1 employers. The Level 3 (Consumer Services) essentially provide services and goods to local residents and thereby churn money within the community and help generate sales taxes.

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The key focus of the target industry analysis is to stimulate growth in the Primary Economic Employers that will stimulate growth at the other two levels. However, there may need to be some types of Level 2 employers (business services) in the area to attract Level 1 employers.

### Three Levels of Employers Within a Local Economy

For a free-standing community to be sustainable it should have a diverse set of primary economic employers as the underpinning of the local economy.



**Level 1  
Primary Economic Employers  
(Operations that generate cash  
from external sources and flow  
into the local community)**

- Manufacturing Operations
- University/College
- State Capital or Major State Operation
- Federal Government/Military Operations
- Financial Center (Banking, Insurance, Securities, Commodities, Trusts)
- Regional Healthcare Operations
- Tourism/Recreation Destination
- Regional Retail Operations
- Regional Distribution Operations

**Level 2  
Business Support Services  
(Purchased by Primary Economic  
Employers)**

- Business Services
- Equipment Repair Services
- R&D/Technical Services
- Lab Services
- Consulting Services
- Construction Services/Developers
- Commercial Banking and Insurance
- Hospitality and Food Service

**Level 3  
Consumer Services  
(Purchased by local consumers)**

- Local Builders/Developers
- Daycare/K-12 Education
- Local Healthcare
- Local Retail/Wholesale
- Personal Services
- Local Government Services
- Local Banking/Insurance Services

# Greene County Comprehensive Economic Development Plan



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Expanding the local economy may require the enhancement of certain local resources as noted below. The resources are divided into three key categories that include business/community resources and infrastructure, labor and job opportunities, and quality of life – each encompasses different aspects of economic development.

Key Economic Development Resources		
<b>Business and Community Resources and Infrastructure</b>		
Buildings, Sites, Industrial and Office Parks	Local Utilities (water, sewer, telecom, power, gas, etc.)	Transportation Resources (air, interstate, rail, port, etc.)
Financial/Incentive Resources	Business Services Availability	Industry and University R&D Capability and Activity
<b>Workforce Development and Job Opportunity</b>		
Community Labor Skills Inventory	Higher Education and Training Resources	Career Options and Spousal Employment Opportunities
<b>Quality of Life Factors</b>		
Housing Cost/Availability and Neighborhood Options	Education From Child Care Through College	Healthcare Facilities and Health Insurance Cost
Diverse Cultural and Recreational Options	Restaurants/Meeting Places and Retail Options	Religious and Social Organizations/Activities



## 3. Target Industry and Resource Analysis

### Summary of Target Industry Opportunities For Greene County

Summarized below are the potential target industry opportunities for the County (divided into five tiers) along with their resource requirements and application to the three individual subregions.

#### Tier I: Warehousing Operations (Consumer, Construction and Industrial Goods)

##### Resource Requirements

- Industrial park with utilities (at a competitive cost for the Capital Region)
- Direct access to interstate (within a few miles of an interchange)
- Labor skill: High school graduates with good work ethic and work in teams
- Competitive labor rates (\$10-\$18/hour)

##### Comments/Challenges

- Current success story for County – primarily along the Route 9W corridor
- Land/infrastructure adequate
- Labor primarily from Greene County with a small percent from Albany/Columbia Counties. However, the labor supply is quickly becoming saturated in the Coxsackie/New Baltimore area due to the warehousing and light manufacturing presence and expansions.

##### Future Opportunities Within the County

- Historic River Towns: more potential if the labor force expands and non-high school grads are upgraded. Due to the limited land with access to the interstate, there is a desire to utilize additional parcels for warehousing vs. other higher skill operations.
- Valley and Mountaintop Towns: Not a high potential other than within the Catskill to Cairo corridor if zoning was modified to accommodate.



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### Tier II: "Traditional" Manufacturing Operations (Plastics Injection Molding, Printing, Food Processing/Baking Operations)

#### Resource Requirements

- Industrial park with utilities (at a competitive cost for the Capital Region)
- Direct access to interstate (within a few miles of an interchange)
- Labor skill: High school graduates with good work ethic and work in teams
- Competitive labor rates (\$10-\$18/hour)

#### Comments/Challenges

- Current success story for county – primarily along the Route 9W corridor
- Land/infrastructure adequate
- Labor primarily from Greene Co. with small percent from Albany/Columbia Counties. However, the labor supply is quickly becoming saturated in the Cossackie/New Baltimore area due to the warehousing and light manufacturing presence and expansions.

#### Future Opportunities Within the County

- River Towns: more potential if the labor force expands and non-high school grads are upgraded. Size of operations mid-sized to large (25,000-150,000 SF with 50-300 employees)
- Valley Towns: small operations to mid-sized operations (5,000-50,000 SF with 10-100 employees)
- Mountaintop Towns: small operations (2,000-5,000 SF with 5-10 employees)

## 3. Target Industry and Resource Analysis

### Tier III: Advanced Manufacturing (Plastics Molding, Fabricated Metal Products, Medical Devices, Electronic Components/Devices, Printing, Food Processing/Baking)

#### Resource Requirements

- Industrial park with utilities (low cost relative to Capital Region)
- Reasonable access to interstate
- Labor skill:
  - High school graduates with good work ethic and work in teams
  - Technicians with specialized skills

#### Comments/Challenges

- Some presence of Fabricated Metal Products in Greene County
- Primary opportunities along Route 9W corridor... potential smaller operations in Valley and Mountaintop Towns
- Land/infrastructure adequate along 9W (need zoned areas for development for Valley and Mountaintop Towns)
- Technical labor partially from Greene County and Capital Region (significant competition in Capital Region)
- Hudson Valley Community College but not Columbia-Greene has courses to support industry

#### Future Opportunities Within the County

- River Towns: sites available for higher value jobs with some competition with site inventory targeted for “high technology” support operations. Size of operations mid-sized (25,000 - 50,000 SF with 50-100 employees)
- Valley Towns: small operations to mid-sized operations (5,000-25,000 SF with 10-50 employees)
- Mountaintop Towns: small operations (2,000-5,000 SF with 5-10 employees)

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### Tier IV: Emerging Technologies (Biotechnology, Nanotech Materials, Advanced Electronic Components, Photonic Components, Advanced Energy Systems, etc.)

#### Resource Requirements

- Industrial park with utilities with reasonable access to R&D activity
- Access to interstate
- Labor skill:
  - High school graduates with good work ethic and work in teams
  - Technicians with specialized skills
  - Engineers and scientists

#### Comments/Challenges

- R&D activity in Capital Region (RPI and SUNY-Albany)
- Primary opportunities along the Route 9W corridor . . . potential smaller operations in Valley and Mountaintop Towns
- Land/infrastructure adequate along 9W (need zoned areas for development in Valley and Mountaintop Towns)
- Technical labor will need to be developed
- Enhance quality of life to attract technical labor into the area . . . local resident students are key to success
- Hudson Valley Community College but not Columbia-Greene has some technical courses

#### Future Opportunities Within the County:

- River Towns: sites available for mid-sized to large operations (25,000 -100,000 SF with 50 - 200 employees)
- Valley Towns: small operations to mid-sized operations (5,000-25,000 SF with 10-50 employees)
- Mountaintop Towns: small operations (2,000-5,000 SF with 5-10 employees)



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### Tier V: Technical/Professional Services and Financial Services

#### Resource Requirements

- Office park with utilities, high speed telecom (competitively priced compared to Capital Region)
- Access to interstate for commuters
- Labor skill:
  - Trend toward 100% college grads
- Business support services/amenities
  - IT services
  - Accounting services
  - Restaurants
  - Daycare
  - Limited shopping
  - Banking, etc.

#### Comments/Challenges

- Significant micro business presence
- Some companies prefer a spec building . . . others will build on developed sites
- Compete for labor with Capital Region
- Significant local source of skills in County
- Primary opportunity along Route 9W corridor . . . potential smaller operations in Valley and Mountaintop Towns
- Land/infrastructure adequate along 9W (need zoned areas for development in Valley Towns)... Mountaintop Towns will consist of small business and work from home
- Enhance quality of life to attract business/IT/professional labor into the area . . . local resident students are key to success
- Hudson Valley and Columbia-Greene Community Colleges have Business/IT programs . . . draw from area four-year colleges

#### Future Opportunities Within the County

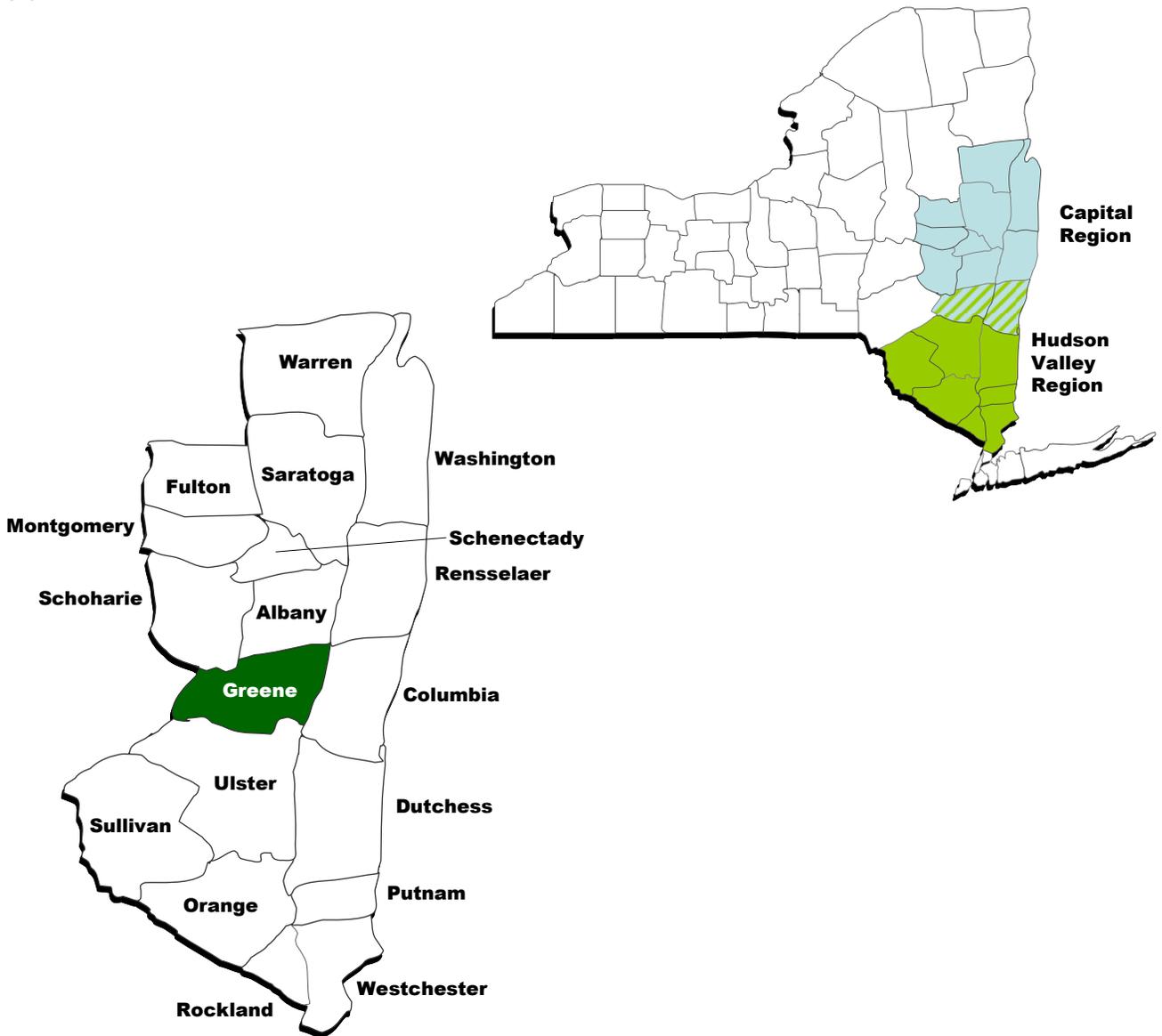
- Historic River Towns: need to dedicate a park to offices and possibly technology operations; office and warehousing usually don't mix well. Opportunities for office suites and buildings with 10,000 SF to 50,000 SF for 50-250 employees
- Valley Towns: small operations to mid-sized operations (5,000-25,000 SF for 25-125 employees)
- Mountaintop Towns: small operations (2,000-5,000 SF for 10-25 employees)



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### Initial Screening of Traditional Industries Within the Region

Employment data for selected NAICS codes was collected for the nine (9) counties within the Capital Region and the nine (9) counties within the Hudson Valley Region. Individual counties are noted below.



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Employment data for existing industries was collected for the 18 counties within the Capital Region and Hudson Valley. Employment levels were divided into six size ranges as noted below and the size ranges were then grouped by industry as presented in the table below. Industries included all of the manufacturing categories as well as warehousing, financial services and professional services.

Selected Industries vs. Employment Level by County								
Potential	NAICS	Description	A	B	C	D	E	F
		<b>Manufacturing</b>						
■	311	Food	4	5	2	1		
	312	Beverage	3	1				
	313	Textile Mills	4	4				
	314	Textile Product Mills	3	1	1			
	315	Apparel Mfg.	3					
	316	Leather/Applied Prods.	1		1			
	321	Wood Products	4	3				
	322	Paper Mfg.	4	3	3			
■	323	Printing & Related Support	4	2	3	2		
	324	Petroleum/Coal Prods.						
■	325	Chemical Mfg.	1	3	5	2		
■	326	Plastics & Rubber	8	2	4	2		
	327	Non-Met. Mineral Prods.	6	5	1	1		
	331	Primary Metal Mfg.	2	2	1			
■	332	Fabricated Metal Prods.	5	4	5	1		
■	333	Machinery Mfg.	6	5	1	2		
■	334	Computers & Electronics	5	3		1	1	
	335	Elec. Equip./Appl./Comp.	5	2	2			
	336	Transportation Equipment	4	1	1			
	337	Furniture/Related Prods	5	5				
■	339	Misc. Mfg./Med Devices	1	6	1	2		
■	493	Warehousing & Storage	3	3	5	2		
		<b>Financial Services</b>						
■	522	Banking/Credit Card	4	3	3	5	1	
	523	Securities/Investments	2	4	1	1		
■	5241	Insurance Companies	1	3	2	5	1	
■	54	Prof/Technical Serv.	1	4	3	6	2	2
		<b>Level of Employment</b>						
		A = 100 - 249						
		B = 250 - 499						
		C = 500 - 999						
		D = 1,000 - 4,999						
		E = 5,000 - 10,000						
		F = 10,000+						

**Interpretation of Data:**

For Food Manufacturing there are:

- 4 counties with 100-249 employment level
- 5 counties with 250-499 employment level
- 2 counties with 500-999 employment level
- 1 county with 1,000-4,999 employment level



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A profile of Greene County by industry/economic segment is listed below:

NAICS Code	Description	Greene Co. Employment	Greene Co. (% of Total)	National (% of Total)
11	Agriculture, Forestry , Fishing and Hunting	35	0.24%	0.14%
21	Mining	15	0.10%	0.35%
22	Utilities	35	0.24%	0.51%
23	Construction	550	3.73%	4.85%
31 - 33	Manufacturing	825	5.59%	10.74%
42	Wholesale Trade	470	3.18%	4.45%
44-45	Retail Trade	2370	16.06%	11.29%
48-49	Transportation and Warehousing	450	3.05%	3.09%
51	Information	200	1.36%	2.73%
52	Finance and Insurance	335	2.27%	4.91%
53	Real Estate, Rental and Leasing	150	1.02%	1.55%
54	Professional, Scientific and Technical Services	390	2.64%	5.58%
55	Management of Companies and Enterprises	15	0.10%	2.19%
56	Administrative/Support, Waste Mgmt, and Remed. Serv.	175	1.19%	6.47%
61	Educational Services	55	0.37%	2.11%
62	Health Care and Social Assistance	975	6.61%	11.75%
71	Arts, Entertainment and Recreation	650	4.40%	1.39%
72	Accomodation and Food Service (Hospitality)	2100	14.23%	7.93%
81	Other Services (Except Public Administration)	455	3.08%	4.08%
92	Public Administration (Federal, State & Local)	4500	30.49%	13.85%
99	Unclassified	10	0.07%	0.04%
	<b>Total</b>	<b>14760</b>		

■ Above national average  
■ Below national average

The Greene County economy has a strong underpinning in local and state government (e.g., prisons), tourism (ski areas and other resort areas), and an emerging retail trade. The economy has lost a significant manufacturing base over the last 20 years as well as the healthcare base that has shifted to Columbia County. However, recent business attraction efforts in the northeastern segment of the County have attracted additional manufacturing and warehousing operations that are helping to expand the Level 1 employment base.

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## 3. Target Industry and Resource Analysis

A tally of Greene County companies for selected industries is presented below along with a listing of major employers:

### Manufacturers

Total Employment = 815		Total number of employers = 36; Employers with >50 employees = 8	
Major Employer	Employment	NAICS Code	Description
National Bedding Company	50 to 99	33791	Matress mfg
Stiefel Research Inst. Inc.	200 to 250	325412	Pharmaceutical preparation mfg
Brockway-Smith Co	100 to 249	32191/332321	Millwork & Window/Door Distributor
Dynabil Industries Inc	100 to 249	332322	Sheet metal work mfg
Royal Metal Products	50 to 99	332322	Sheet metal work mfg
Community Playthings/Bruderhof	50 to 99	33993/33712	Wooden toys and furniture
Glens Falls Lehigh Cement Co	100 to 249	3273	Cement products mfg
St Lawrence Cement	100 to 249	3273	Cement products mfg

### Wholesalers/Retailers

Total Employment = 2,800		Total number of employers = 249; Employers with >50 employees = 10	
Major Employer	Employment	NAICS Code	Description
Garrison Fire & Rescue Corp.	20 to 49	4238	Emergency equipment wholesalers
United Stationers	100 to 249	42412	Office supply distribution center
Amos Post Co.	50 to 99	42472	Petroleum mechant wholesaler
Casing Incorporated	50 to 99	44132	Tire dealers and processors
Grand Union Co	50 to 99	42511	Supermarkets & other grocery stores
Bryant's Market Inc	100 to 249	44521	Meat markets

### Financial Services

Total Employment = 500		Total number of employers = 48; Employers with >50 employees = 1	
Major Employer	Employment	NAICS Code	Description
National Bank Of Coxsackie	20 to 49	52211	Commercial banking
Greene County Bancorp Inc	50 to 99	551111	Offices of bank holding companies

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### Resort/Hospitality

Total Employment = 2,750		Total number of employers = 235; Employers with >50 employees = 8	
Major Employer	Employment	NAICS Code	Description
Hunter Mountain	500 to 999	71392	Ski Center
Windham Mountain	500 to 999	71392	Ski Center
Sunny Hill Resort & Golf	50 to 99	72119	Hospitality/Resort
Lodge At Windham Mountain	500 to 999	72119	Hospitality/Resort
Girl's Vacation Fund Inc	50 to 99	72121	Recreational & vacation camps
Loyaltown Ahrc	100 to 249	72121	Recreational & vacation camps
Friar Tuck Inn	50 to 99	72119	Hospitality/Resort
Marriott Corp	100 to 249	72221	Limited-service restaurants

### Healthcare/Social Assistance

Total Employment = 970		Total number of employers = 95; Employers with >50 employees = 3	
Major Employer	Employment	NAICS Code	Description
Columbia-Greene Long Term Care	100 to 249	62311	Nursing care facilities
Eden Park Health Care Ctr	100 to 249	62311	Nursing care facilities



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### Assessment of Potential Target Industries

<b>FOOD MANUFACTURING</b>	
<i>includes dairy products, commercial baking plants, confectionaries and meat processing</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ Strong expanding demand for healthy food products (gluten-free or low salt, sugar, fats, carbs, additives, etc.).</li> <li>▪ Escalating demand for organically grown foods (from \$3.6B in 1997 to \$15B in 2005)</li> <li>▪ In contrast, there is also a sustained demand for snack-type foods</li> <li>▪ Of particular interest are unique/gourmet cheeses, coffees, teas, sport drinks and other beverages</li> <li>▪ Demand for pre-packaged foods for double income families with busy life styles</li> <li>▪ Global flow of specialty foods and expanding use of Internet for sales</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Market specialty cheese or other dairy products (with milk from multiple local farms), ethnic baked goods (German or Irish to support tourism) or specialty confections.

<b>PRINTING AND RELATED SUPPORT FUNCTIONS</b>	
<i>Includes a range of operations from small print shops up to major printing/binding operations</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ Computerization of printing processes and interface to printing process</li> <li>▪ Computers and Internet have reduced demand for certain types of printing</li> <li>▪ Process automation has reduced labor content but driven up the operator skill levels</li> <li>▪ Cost has driven commodity printing off-shore</li> <li>▪ Commercial flexographic and digital printing on the rise</li> <li>▪ Printers are expanding their service offering to sustain growth and market opportunities</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Establish small to mid-size printing operations to support Capital Region and produce local books, pamphlets, promotional materials, etc.

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<b>CHEMICAL MANUFACTURING</b>	
<i>Includes basic chemicals, resins and rubber, and pharmaceuticals/other medicines (Stiefel Labs in Greene County and a significant number of operations in Rockland, Orange and Westchester Counties)</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>Chemical manufacturing requires large scale operations requiring significant land tracts</li> <li>Pharmaceutical industry is siting operations on large land tracts near research universities to continuously redevelop and expand product lines</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Environmental issues, lack of specialized labor and related R&D, and large flat land requirements make the potential for this industry very limited

<b>PLASTICS AND RUBBER MANUFACTURING</b>	
<i>Includes a variety of molding operations for plastic/rubber parts, components and finished goods that support multiple industries or sold as stand-alone products</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>Consolidation and off-shoring of commodity products</li> <li>Rapidly evolving technology and significant process automation applications</li> <li>Expansion of services (engineering and design) to enhance value to customer</li> <li>Niche opportunities: rapid changes, large size, heavy weight items, etc.</li> <li>Cost of energy critical and larger operations require rail line</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Good opportunity to expand manufacturing base with limited land requirements and moderate skill levels; leverage presence of GE Plastics in Selkirk

<b>FABRICATED METAL PRODUCTS</b>	
<i>Includes containers, cutlery, valves and pipe, sheet metal objects, machining operations, fasteners, etc.</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>Significant pressure from Eastern Europe and Far East</li> <li>Substantial automation being applied to this industry</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Very high end products and machine shop support for other area industries

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<b>MACHINERY MANUFACTURING</b>	
<i>Includes industrial, commercial and agricultural machinery, heating/ventilating and air conditioning equipment, and mold manufacturing</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ Global competition is strong within the industry</li> <li>▪ Local manufacturing required (within country or continent) when equipment is too large or too heavy to ship economically</li> <li>▪ Significant application of automation to enhance productivity</li> <li>▪ Being close to customer may have advantages (e.g., mold makers near plastic parts makers)</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Mold making for plastics industry or very specialized machinery

<b>COMPUTERS AND ELECTRONICS MANUFACTURING</b>	
<i>Includes electronic components, devices and equipment; major presence at IBM in Dutchess County and multiple firms in Westchester County</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ Fast-paced, innovation-driven industry... high industry growth but automation is impacting job growth</li> <li>▪ High percentage of work force is engineers and technicians to sustain technical edge</li> <li>▪ Design, manufacturing and final assembly may be in different countries</li> <li>▪ Significant number of small businesses within the industry derived from an technical idea</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	View as long term opportunity as R&D-related activity in Albany/Capital Region matures into specific product lines

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<b>MEDICAL DEVICE MANUFACTURING</b>	
<i>Includes a variety of diagnostic and therapeutic devices constructed (typically) of plastics and special alloys and stainless steel or aluminum with electronic components and possible software; regional strength in Warren, Washington and Westchester Counties</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ Significant growth in types and diversity of equipment and application with health care</li> <li>▪ Aging U.S. and global populations drive demand for diagnostic and therapeutic devices</li> <li>▪ Material science, electronics, software, biomedical technology and nanotechnology all coming together to provide different platforms for devices</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Longer term opportunity as skills are upgraded and industry grows in the region.

<b>WAREHOUSING AND STORAGE</b>	
<i>Some of the warehousing operations in region are in-house and may not be identified as Warehousing by NAICS code</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ As Capital Region expands, the demand for perimeter warehousing will grow</li> <li>▪ New England has little room and desire for warehousing operations which places more opportunities in the Hudson Valley</li> <li>▪ Regional warehousing strategy is again on the upswing</li> <li>▪ Use of automation within the warehousing and in managing logistics continues to be in demand</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Greene County will be in demand for warehousing support for the Capital Region and New England as long as land and labor are relatively low cost

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<b>FINANCIAL SERVICES</b>	
<i>Capital Region and southern Hudson Valley have strong financial services presence that includes banking, credit cards, securities and insurance companies</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ Significant consolidation in the industry with companies seeking to offer total integrated services packages: insurance, securities, banking and financial planning</li> <li>▪ Companies off-shoring certain operations to cut costs; however, some advanced customer service centers are coming back to North America</li> <li>▪ New York City firms will either acquire companies in other regions or establish operations in lower cost/accessible locations to NYC (e.g., Hudson Valley, Eastern PA, Upstate NYS)</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Longer term potential for back office operations that support the financial services industry in the two regions, New York City, Hartford and Boston

<b>PROFESSIONAL AND TECHNICAL SERVICES</b>	
<i>Includes legal, engineering, R&amp;D, management consulting, marketing consulting, accounting, software and systems, and other technical services</i>	
<b>INDUSTRY TRENDS</b>	<ul style="list-style-type: none"> <li>▪ High growth segment... particularly for small business</li> <li>▪ Relatively portable operations... need access to DSL/high speed Internet and airport</li> <li>▪ High quality jobs but typically demand high quality of life</li> </ul>
<b>POTENTIAL FOR GREENE COUNTY</b>	Opportunity for small and mid-size business throughout the County in formal offices or working from home



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### Initial Screening of Emerging Technologies Within the Region

#### HUDSON VALLEY/NEW YORK CITY

The primary R&D activity in this region relates to biotech/pharmaceuticals/medical applications due to the strong presence of world-class research institutions including: Sloan-Kettering, Mount Sinai, New York-Presbyterian (Columbia University and Cornell). The lower Hudson Valley has had limited opportunities in Westchester and Rockland Counties in converting R&D into local economic opportunities. There is also a smaller R&D and production activity related to cosmetics. The potential for business opportunities being leveraged from this area to Greene County are remote in the short and mid-range time frame.

#### CAPITAL REGION

Due to the engineering/technology focus of RPI and the upgrade of research at SUNY-Albany, there are several areas of R&D focus that include microelectronics and photonics (light-based), material science, biotechnology, nanotechnology, information technology. Private industry also is engaged in significant R&D in the Capital Region which is focused on a number of key areas, including, renewable energy systems, plastics, material science, nanotechnology and biotechnology. The region is also supporting the technology initiatives with two major industrial parks (Luther Forest in Malta – Saratoga County and the Harriman Campus in Albany). Plans for a BOCES technology high school (Tech Valley High) to be built in Rensselaer County with an emphasis on Math, Science and Technology. Details on R&D and technology commercialization are provided on the following pages of this report.

#### STATE-SPONSORED TECHNOLOGY INITIATIVES IN THE CAPITAL REGION

Based on the 2006 State of the State address by Governor Pataki, there are two key areas of technology that the State of New York will pursue:

- Renewable energy technology and making New York State energy self-sufficient
- The next generation micro-electronics technology to sustain New York's "edge"

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## 3. Target Industry and Resource Analysis

### UNIVERSITY R&D OPERATIONS

The two primary university research operations within the Capital Region are:

Operation	Location	Scope of R&D Activity
1. Rensselaer Polytechnic Institute	Troy	Biotechnology, information technology, nanotechnology, microelectronics and modeling & simulation
2. SUNY – University at Albany	Albany	Advanced materials, nanotechnology, biotechnology, energy and environmental/atmospheric sciences

### COMMERCIAL R&D OPERATIONS

There are a variety of commercial R&D operations throughout the region that develop products and solutions for local, national and global customers.

Operation	Location	Scope of Activity	Employment
1. DarTech	Rensselaer	Biotechnology	<10
2. Albany NanoTech – Energy and Environmental Technology Applications Center	Albany	Advanced materials and energy	11-20
3. Mohawk Innovative Technology	Albany	Advanced materials, energy and biotechnology	11-20
4. M&P Lab	Schenectady	Materials analysis	21-50
5. Adirondack Environmental Service	Albany	Material and product testing	21-50
6. Ordway Research Institute	Albany	Biotechnology	51-100
7. Albany NanoTech – Center for Excellence in Nanoelectronics	Albany	Advanced materials, energy and nanotechnology	100-500
8. Foster-Miller Technologies	Albany	Advanced materials, energy, biotechnology, information technology, nanotechnology	100-500
9. New York Oncology/Hematology	Albany	Medical laboratory	100-500
10. Benet Laboratories (U.S. Army)	Watervliet	Advanced materials, energy, information technology, nanotechnology	>500
11. Wadsworth Center	Albany	Biotechnology	>500
12. GE Global Research	Niskayuna	Advanced materials, energy, information technology, biotechnology and nanotechnology	>500
13. Regeneron	Rensselaer	Biotechnology	>500



## 3. Target Industry and Resource Analysis

### RENSELAER POLYTECHNIC INSTITUTE

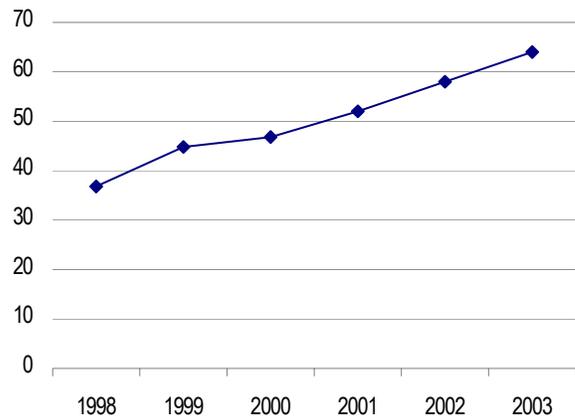
R&D activity at RPI continues to expand and has grown from \$38 million in 1998 to \$64 million in 2003, which is significant for a university of its size. Most major U.S. universities have research budgets in the \$200+ million range, with a significant amount of the research applied toward life sciences. Over 50% of the funding for RPI's research comes from federal agencies; another 12% is derived from corporate sources and the balance from state and private sources.

The majority of RPI's R&D is focused on engineering science rather than on basic research. This results in the output of RPI's efforts having more emphasis on real-life applications and solutions than on theory, and therefore may be more easily and quickly converted to actual products.

RPI's R&D efforts are primarily focused on the following areas:

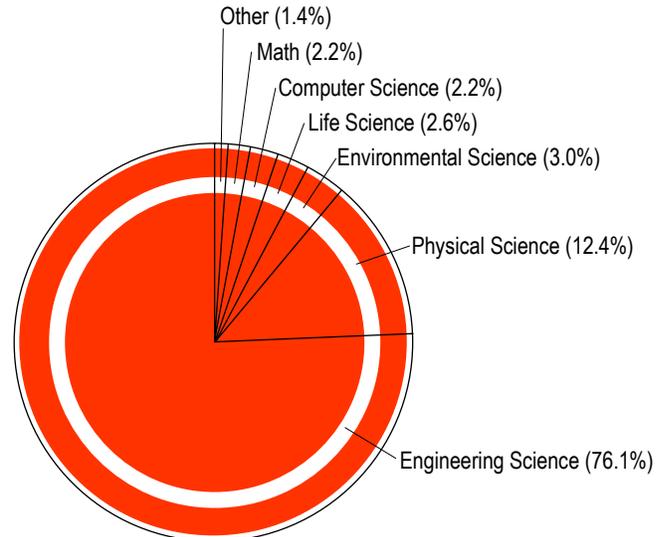
- Biotechnology
- Information Technology
- Nanotechnology
- Microelectronics
- Modeling & Simulation

**3.2 - RPI R&D Budget: 1998 - 2003**



Source: RPI R&D Annual Report

**3.3 - R&D Program Activity at RPI**



Source: University R&D statistics compiled by the University of FL and is based on the spending budget in 2000.

## 3. Target Industry and Resource Analysis

### RPI's Office of Technology Commercialization

The Office of Technology Commercialization oversees and facilitates the management of intellectual property and the transfer of R&D activity from RPI into potential products and businesses. The office processes approximated 80 disclosures and negotiates 12-15 agreements per year.

### Rensselaer Incubator Program

Established over 20 years ago, the Rensselaer Incubator program has helped establish over 180 companies representing a total employment of over 2,000 jobs and an annual revenue of over \$500 million. The overall function of the operation is three-fold:

- Enrich the academic environment at RPI
- Support technology transfer
- Stimulate regional economic development

The incubator operation is located both on the main campus of RPI as well as across the Hudson River in Watervliet. Services that are offered to startup companies include:

- Office/manufacturing/lab space
- Utilities (power, water, sewer, phone/internet)
- Shared office services
- Business support services

The incubator program has remained self-sufficient since its inception and continues to host a variety of businesses. There are currently 43 tenants in the program.

### Rensselaer Technology Park

The park consists of over 1,200 contiguous acres in Rensselaer County along the Hudson River between the cities of Troy and Rensselaer. There are 450 developed acres with 23 buildings comprised of over one million square feet of space. Currently, the park hosts 50 tenants representing a wide diversity of technologies that support 2,200 jobs. The park has a formal master plan that includes areas for technology facilities, housing, waterfront and open space.



## 3. Target Industry and Resource Analysis

### SUNY – UNIVERSITY AT ALBANY

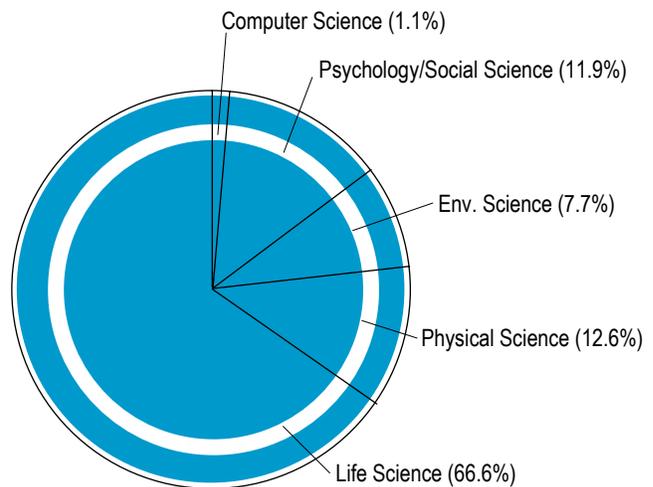
Research expenditures exceed \$80 million. Key areas of focus for research include:

- Biotechnology/life sciences
- Computer and information technology
- Environmental sciences and technology
- Advanced materials
- Physical sciences

The State of New York is investing substantially in nanotechnology with applications in:

- Electronics
- Photonics (light-based signals)
- Materials processing
- Sensors
- Metrology (measurement) and analysis
- Computer modeling
- Thin film applications

#### 3.4 - R&D Program Activity at SUNY - Albany



Source: University R&D statistics compiled by the University of FL and is based on the spending budget in 2000.



Artist's rendering of Albany NanoTech's facility at SUNY – Albany currently under construction

## 3. Target Industry and Resource Analysis

### GE GLOBAL RESEARCH CENTER

GE has its global R&D center headquarters in Niskayuna (near Schenectady) along with complementary operations in India and China. Total R&D employment is over 2,000 and the key areas of emphasis are technologies related to:

- Advanced computing as well as information and decision processing
- Ceramics and metallurgy
- Combinatorial chemistry and environmental
- Electronic and photonic systems
- Energy and propulsion
- Imaging (medical applications)
- Mechanical and e-engineering
- Inspection and manufacturing
- Micro and nano structures
- Polymers and specialty chemicals



GE's R&D efforts help support existing product lines and processes as well as seek new business opportunities through new technologies and applications.

### GE PLASTICS

In addition to resin manufacturing in Selkirk and silicone manufacturing in Waterford, GE Plastics has a Customer Innovation Center in Selkirk to help customers apply the use of color in a molded product and then produce a prototype part or component on-site in the molding lab. GE Plastics also has its global headquarters and technology application center in nearby Pittsfield, MA.



# Greene County Comprehensive Economic Development Plan



## 3. Target Industry and Resource Analysis

### BUSINESS INCUBATORS

RPI has had a technology business incubator program operating since the early 1980's. More recently, other incubators have been established to stimulate business growth to expand job opportunities throughout the region. Incubators are typically facilities of various sizes and configurations that support the growth of startup companies with low-cost space, access to utilities, shared office/business services and mentorship on developing business and marketing plans, and the mechanics of running a business.

3.5 - Examples of Incubator Operations Within the Capital Region			
Facility	Location	Use Categories	Size (SF)
1. Rensselaer Incubator Program	Troy/Watervliet	Technology	100,000+
2. Center for Environmental Sciences & Technology Management	Albany	Technology	120,000
3. East Campus at State University of NY	Rensselaer	Biomedical	100,000
4. Albany Center for Economic Success	Albany	Mixed-Use	18,000
5. Schenectady Business & Technology Center	Schenectady	Technology	15,000
6. Schenectady County Community Bus. Center	Schenectady	Mixed-Use	19,000
7. U-Start Business Incubator (Union College)	Schenectady	Technology	2,000



## 3. Target Industry and Resource Analysis

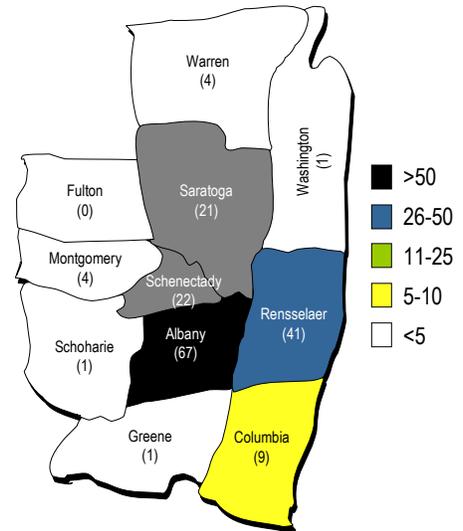
### TECHNOLOGY COMPANIES IN THE CAPITAL REGION

There are approximately 170 technology-related companies throughout the Capital Region representing five core technology areas:

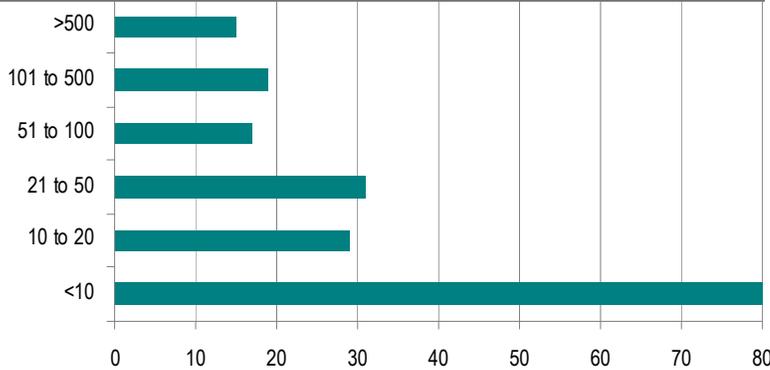
- Nanotechnology
- Biotechnology
- Energy
- Advanced materials
- Information technology

Details on each company are available at [www.technologyroadmap.org](http://www.technologyroadmap.org).

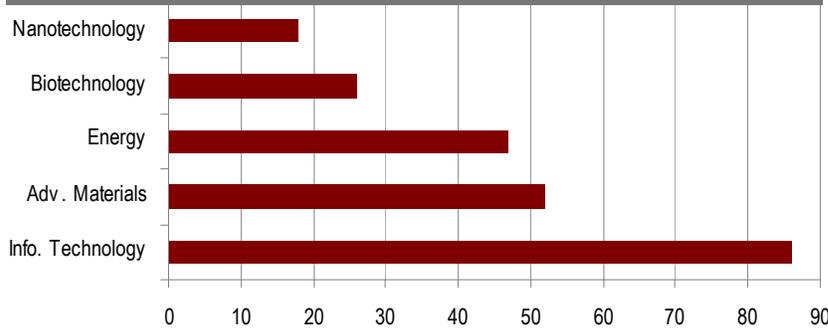
**3.6 - Tech Companies By County**



**3.7 - Size Distribution of Tech Companies By Employment**



**3.8 - Number of Companies By Technology Type**





### 3. Target Industry and Resource Analysis

#### OTHER MAJOR TECHNOLOGY PARKS IN THE CAPITAL REGION

##### Luther Forest Technology Campus

A 1,350-acre campus for nanotechnology and high-tech R&D/production activities.



##### Harriman Campus

The 300-acre State Office Campus in Albany, to be converted into an R&D technology park with millions of square feet of office, lab and production space.





## 3. Target Industry and Resource Analysis

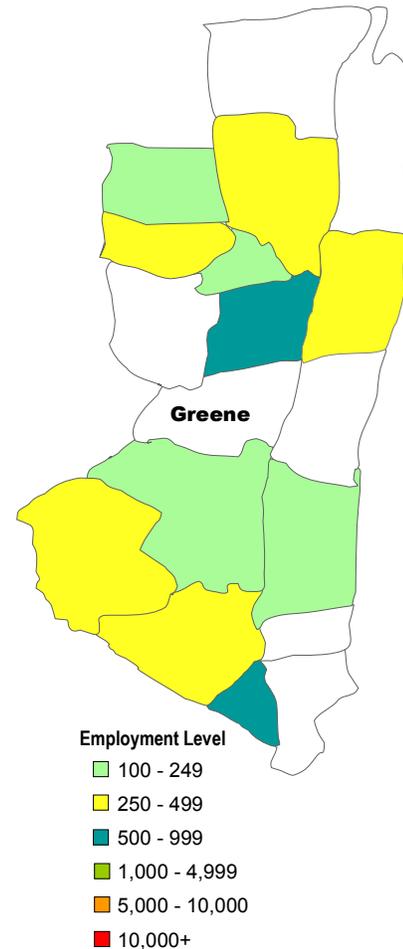
### Target Industry Candidates

#### FOOD PROCESSING

Description: Dairy processing or ethnic baked goods – commercial bakery (German and/or Irish) to support tourism.

Resource Requirements by Size of Operation		
Size of Business ▶	<5 Employees	10 – 25 Employees
<b>Site Options</b>		
Stand-Alone Site		X
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	Stand alone or in park	X
Office Building		
Rehab Space	If certified for food	If certified for food
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	Sewer loading
Telecom/Internet	X	X
Gas	For Ovens	For Ovens
Power	X	X
<b>Transportation</b>		
Interstate	Access to UPS	Within 10 miles
Rail		
Air		
<b>Quality of Life</b>		
<b>Labor</b>		
High School	X	X
2-Yr College		
4-Yr. College		
Advanced Degrees		

#### Current Region Presence



**Specialized Training Requirements:**  
 Food prep and handling  
 Cheese making  
 Use of process equipment



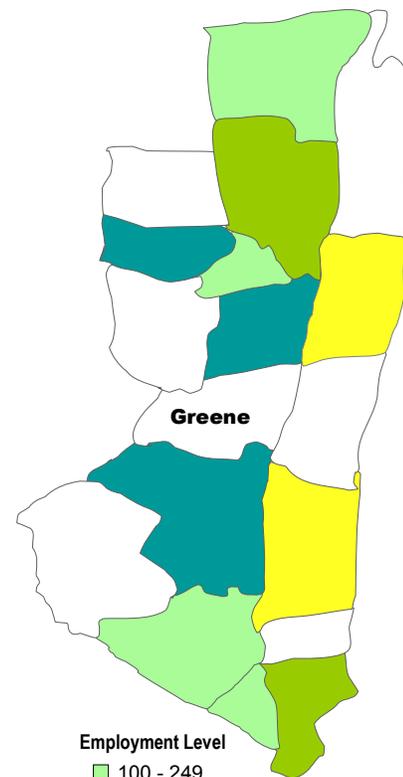
## 3. Target Industry and Resource Analysis

### PRINTING AND RELATED SUPPORT OPERATIONS

**Description:** Print flyers, inserts, promotional literature, corporate communications, etc.

Resource Requirements by Size of Operation		
Size of Business ►	<5 Employees	10 – 25 Employees
<b>Site Options</b>		
Stand-Alone Site		
Industrial Park	X	X
Office Park	X	X
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space	X	X
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	X	X
Gas		
Power	X	X
<b>Transportation</b>		
Interstate	Within 20 miles	Within 10 miles
Rail		
Air		
<b>Quality of Life</b>		
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College		
Advanced Degrees		

### Current Region Presence



- Employment Level**
- 100 - 249
  - 250 - 499
  - 500 - 999
  - 1,000 - 4,999
  - 5,000 - 10,000
  - 10,000+

**Specialized Training Requirements:**  
Graphic design software  
Printing machine interface/setup



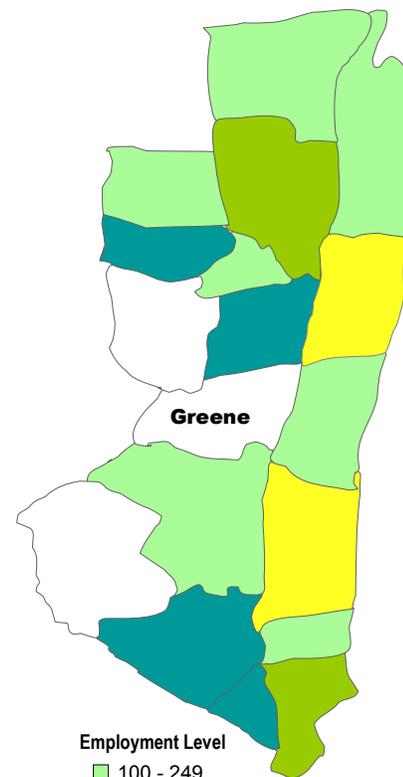
## 3. Target Industry and Resource Analysis

### PLASTICS AND RUBBER MANUFACTURING

Description: Molding of plastic and rubber parts, components and final products.

Resource Requirements by Size of Operation		
Size of Business ►	5-10 employees	25-50+ employees
<b>Site Options</b>		
Stand-Alone Site		
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space	X	
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	X	X
Gas	X	X
Power	X	X
<b>Transportation</b>		
Interstate	Within 20 miles	Within 10 miles
Rail		For raw materials
Air		
<b>Quality of Life</b>		
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College		
Advanced Degrees		

**Current Region Presence**



- Employment Level**
- 100 - 249
  - 250 - 499
  - 500 - 999
  - 1,000 - 4,999
  - 5,000 - 10,000
  - 10,000+

**Specialized Training Requirements:**  
Plastic molding techniques  
Use and maintenance of equipment

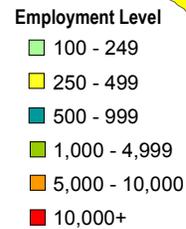
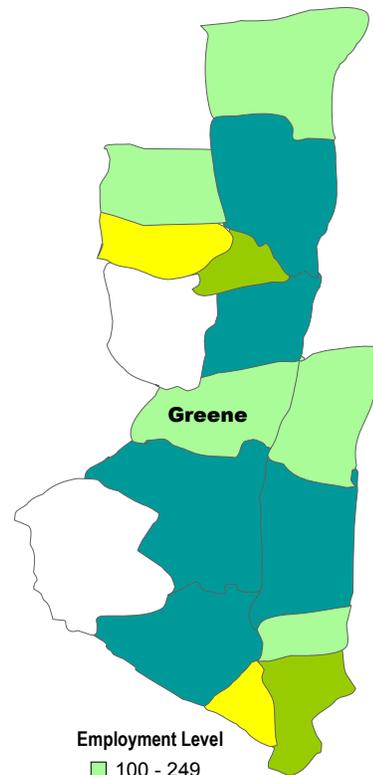


## 3. Target Industry and Resource Analysis

### FABRICATED METAL AND MACHINERY MANUFACTURING

Description: Products produced from the forming, machining and finishing of metals.

Resource Requirements by Size of Operation		
Size of Business ►	<5 Employees	20-50+ Employees
<b>Site Options</b>		
Stand-Alone Site		
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space	X	X
Work From Home	Rural site	
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	X	X
Gas	X	X
Power	X	X
<b>Transportation</b>		
Interstate	Within 20 miles	Within 10 miles
Rail		Possible
Air		
<b>Quality of Life</b>		
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College	X	X
Advanced Degrees		



**Specialized Training Requirements:**  
 Machine tool operation  
 Product design with CAD  
 Metallurgy for special alloy applications



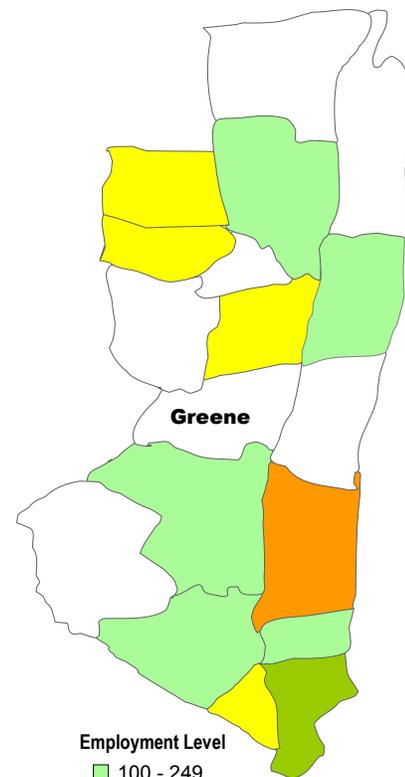
## 3. Target Industry and Resource Analysis

### COMPUTERS/ELECTRONICS (COMPONENTS AND EQUIPMENT) MANUFACTURING

Description: Chip fab plant, sensors, components, subassemblies, equipment.

Resource Requirements by Size of Operation		
Size of Business ►	25-75 employees	100+ Employees
<b>Site Options</b>		
Stand-Alone Site	X	X
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space		
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	Large volumes
Telecom/Internet	X	X
Gas	X	X
Power	X	X
<b>Transportation</b>		
Interstate	Within a few miles	Within a few miles
Rail		
Air		
<b>Quality of Life</b>		
Quality of Life	X	X
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College	X	X
Advanced Degrees	X	X

### Current Region Presence



- Employment Level**
- 100 - 249
  - 250 - 499
  - 500 - 999
  - 1,000 - 4,999
  - 5,000 - 10,000
  - 10,000+

**Specialized Training Requirements:**  
 Chip fab processes (clean room operations)  
 Automated processing/assembly equipment  
 Molding processes for housings



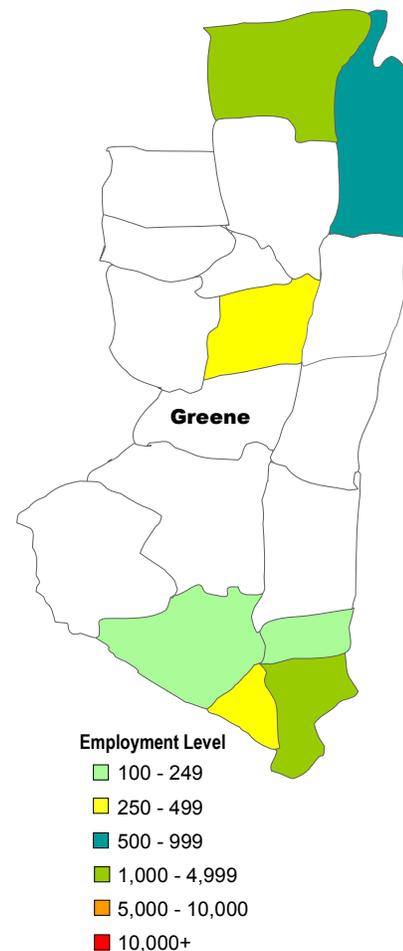
## 3. Target Industry and Resource Analysis

### MEDICAL DEVICE MANUFACTURING

Description: Instruments, components, devices and supplies.

Resource Requirements by Size of Operation		
Size of Business ►	25-75 Employees	100+ Employees
<b>Site Options</b>		
Stand-Alone Site	X	X
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space	X	X
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	X	X
Gas		
Power	X	X
<b>Transportation</b>		
Interstate	within 10 miles	within 5 miles
Rail		
Air		
<b>Quality of Life</b>		
Quality of Life	X	X
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College	X	X
Advanced Degrees	X	X

**Current Region Presence**



**Specialized Training Requirements:**  
Machining, CNC equipment  
Molding of plastics and rubber

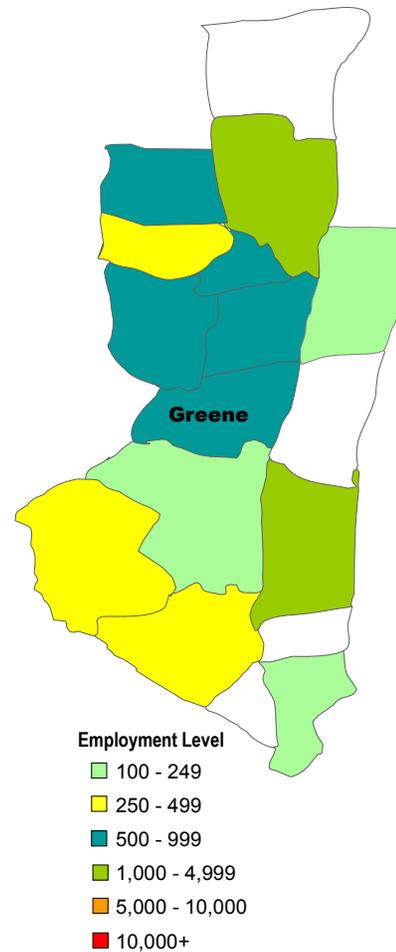


## 3. Target Industry and Resource Analysis

### WAREHOUSING AND STORAGE

**Description:** Receive/store/load or cross-dock operations operated by a third party or retailer/wholesaler.

Resource Requirements by Size of Operation		
Size of Business ►	75-150	300+ Employees
<b>Site Options</b>		
Stand-Alone Site	X	X
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space		
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	X	X
Gas		
Power	X	X
<b>Transportation</b>		
Interstate	within a few miles	within a few miles
Rail		
Air		
<b>Quality of Life</b>		
<b>Labor</b>		
High School	X	X
2-Yr College		
4-Yr. College		
Advanced Degrees		



**Specialized Training Requirements:**  
Equipment operation



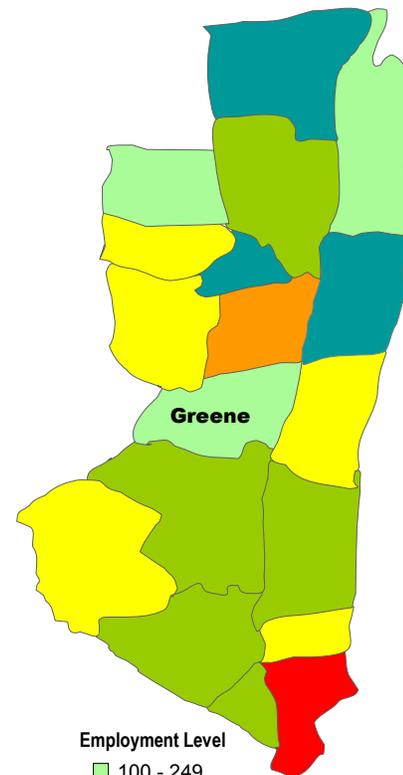
## 3. Target Industry and Resource Analysis

### FINANCIAL SERVICES

Description: Back office support for bank/credit card operation or insurance company.

Resource Requirements by Size of Operation		
Size of Business ►	25-75 Employees	100-250 Employees
<b>Site Options</b>		
Stand-Alone Site	X	X
Industrial Park		
Office Park	X	X
<b>Facility Options</b>		
Industrial Building		
Office Building	X	X
Rehab Space	X	
Work From Home	X	X
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	high capacity	high capacity
Gas		
Power	X	X
<b>Transportation</b>		
Interstate	with five miles	within five miles
Rail		
Air		
<b>Quality of Life</b>		
	X	X
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College	X	X
Advanced Degrees		

**Current Region Presence**



- Employment Level**
- 100 - 249
  - 250 - 499
  - 500 - 999
  - 1,000 - 4,999
  - 5,000 - 10,000
  - 10,000+

**Specialized Training Requirements:**  
 Customer service  
 Basic computer training  
 In-house procedures

# Greene County Comprehensive Economic Development Plan



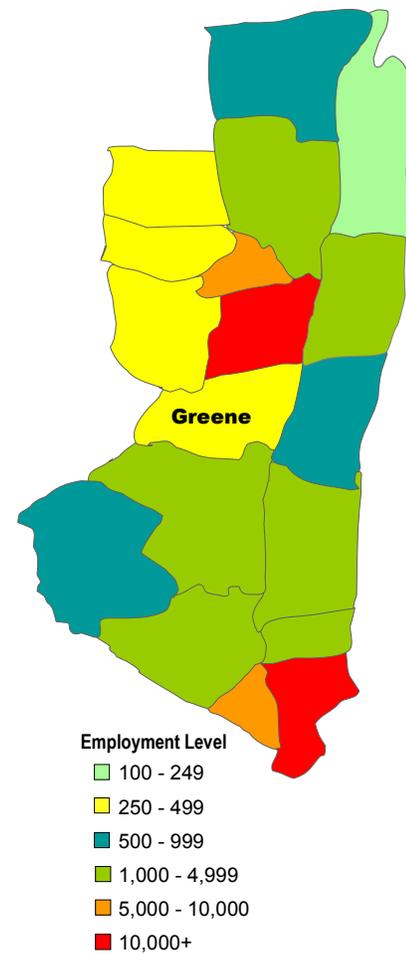
## 3. Target Industry and Resource Analysis

### PROFESSIONAL AND TECHNICAL SERVICES

**Description:** Legal, accounting, marketing services, management, engineering, R&D, software/systems, etc.

Resource Requirements by Size of Operation			
Size of Business ►	Individual	5-10 Employees	25+ Employees
<b>Site Options</b>			
Stand-Alone Site			
Industrial Park			
Office Park		X	X
<b>Facility Options</b>			
Industrial Building			
Office Building	X	X	X
Rehab Space	X	X	
Work From Home	X		
<b>Utilities</b>			
Water/Sewer	X	X	X
Telecom/Internet	X	X	X
Gas			
Power	X	X	X
<b>Transportation</b>			
Interstate	X	X	X
Rail			
Air	X	X	X
<b>Quality of Life</b>	X	X	X
<b>Labor</b>			
High School	X	X	X
2-Yr College	X	X	X
4-Yr. College	X	X	X
Advanced Degrees	X	X	X

### Current Region Presence



**Specialized Training Requirements:**  
Varies by discipline (from technician to professional)



## 3. Target Industry and Resource Analysis

### EMERGING TECHNOLOGIES

**Description:** Biotech (process technology), nanotech (process technology), energy equipment (materials forming and process technology), microelectronics/photonics (clean room process technology).

Resource Requirements by Size of Operation		
Size of Business ►	5-10	25+ Employees
<b>Site Options</b>		
Stand-Alone Site	X	X
Industrial Park	X	X
Office Park		
<b>Facility Options</b>		
Industrial Building	X	X
Office Building		
Rehab Space	X	
Work From Home		
<b>Utilities</b>		
Water/Sewer	X	X
Telecom/Internet	X	X
Gas	X	X
Power	X	X
<b>Transportation</b>		
Interstate	X	X
Rail		
Air	X	X
<b>Quality of Life</b>	X	X
<b>Labor</b>		
High School	X	X
2-Yr College	X	X
4-Yr. College	X	X
Advanced Degrees	X	X

**Specialized Training Requirements:**  
Production techniques  
Understanding of fundamentals