

**THE ECONOMIC IMPACT OF THE RECYCLING
INDUSTRY
IN
SOUTH CAROLINA**

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THE ECONOMIC IMPACT OF RECYCLING

SOUTH CAROLINA

SUMMARY OF RESULTS

2013

RECYCLING = JOBS

TOTAL ECONOMIC IMPACT = 54, 121 JOBS

RECYCLING = INCOME

TOTAL ECONOMIC IMPACT = \$2.7 BILLION IN LABOR INCOME

RECYCLING = ECONOMIC BENEFIT

TOTAL ECONOMIC IMPACT = \$13 BILLION

RECYCLING = TAX REVENUES

STATE AND LOCAL TAXES = \$329 MILLION

Introduction

In order to better understand the economic potential of recycling to the state of South Carolina, the S.C. Department of Health and Environmental Control in conjunction with the S.C. Department of Commerce commissioned a study in 2006 to measure the economic impact of recycling. That report documented the economic impact of the industry in 2005. Recognizing that many changes have occurred in the economy and the recycling industry, the S.C. Department of Commerce, S.C. Department of Health and Environmental Control, and New Carolina commissioned this study to update the 2006 analysis.

The 2006 study was widely cited by many organizations and companies engaged in recycling. The following quote from the 2006 study is most often reported:

“That recycling is beneficial for the environment is a virtually uncontested proposition. What is becoming increasingly more obvious is that recycling contributes to the economic health of a state's economy.”

- Frank Hefner and Calvin Blackwell, College of Charleston – Department of Economics and Finance

The basic results and methodology were also published in an academic journal.¹

There are a number of methodological issues in analyzing the recycling industry. Unlike industries such as car manufacturing, which have a unique and identifiable designation in the North American Industry Classification System, recycling is not so easily identified. There is no one category that captures the variety of activities that fall under recycling. Researchers have been confronted with similar problems in analyzing other amorphous industries, such as “tourism” and “retirement.” Much like recycling, there is no well-defined category for tourism.

¹ Hefner, Frank, and Calvin Blackwell. (2007) “The Economic Impact of the Recycling Industry in South Carolina,” *Southern Business Review*, 32 (2), 33-41.

The economic activities associated with tourism, like recycling, are diffuse and spread across the entire region. The most common method to deal with these problems is to combine survey data with an impact model. This is the method we used in this research.

Because of the ambiguity in defining the industry and the usual problems with surveys, comparisons of studies done in other states are not easily made. For example, Alabama in 2012 conducted a study that looked only at municipal solid waste.² A study in Connecticut in 2012 found that recycling created 4,860 jobs and contributed \$746 million in economic activity in the state.³ The direct impact on jobs was estimated to be 2,785, which implies a multiplier of 1.75 for jobs. The study included public curbside activities as part of the recycling industry. The Iowa Department of Natural Resources estimated the impact of recycling in 2005 using a survey.⁴ Approximately 1,365 surveys were mailed with a 15% response rate. It was estimated that 15,684 jobs were directly related to recycling. This generated a total impact of 34,162 jobs in Iowa, which implies a multiplier of 2.18. A study done in Illinois included public and private collection of recycling. They identified 958 contacts for a survey, sent 668 surveys, and received 100 returned (15% rate). Municipal residential curbside and drop-off collection amounted to 308 establishments, 665 employees, and \$27,981,000 in payroll. Private residential and commercial collection was 239 establishments, 1,215 employees with a payroll of \$60,859,000. In the Illinois estimate they also included retail used merchandise sales (595 establishments). Used furniture, Goodwill industries, Play it Again Sports (used sporting equipment) etc. The database we used was more in line with an industrial concept. The Illinois study estimated a direct impact of 40,000 jobs and a total job impact of 111,500. Labor income \$1.5 billion

² *Economic Impact of Recycling in Alabama and Opportunities for Growth*, Alabama Department of Environmental Management, June 2010.

³ *The Economic Impact on Connecticut from Recycling Activity*, prepared by the Connecticut Economic Resource Center, November 2012.

⁴ *Economic Impacts of Recycling in Iowa*, Iowa Department of Natural Resources, December 2007.

multiplies to \$3.6 billion. Total economic output is \$30.3 billion.⁵ Northeast Recycling Council (NERC) found in 2009 that “Massachusetts is home to over 2000 recycling businesses that employ close to 14,000 people with a payroll approaching \$500 million annually.”⁶ In their 2012 study they surveyed 138 firms. In their 2009 analysis they include municipal residential curbside and drop-off collection (so it is private plus public). The study focused primarily on workforce needs in the industry.

Survey Results

The S.C. Department of Commerce maintains and publishes a directory of businesses that are identified as being engaged in recycling activities.⁷ In 2006, there were 340 firms listed in the directory. In 2014, the industry had grown to where 524 firms are listed in the directory. A cover letter and survey, presented in the next section, were sent to all 524 firms. Three came back as undeliverable. A total of 47 surveys were completed, which represents a 9% response rate. This compares with an 18.8% response rate in 2006, where 15 out of the 240 surveys were returned as undeliverable and 61 firms completed surveys. The survey instrument was modified to include materials. The survey and cover letter that accompanied it are presented in the appendix.

⁵ *2010 Recycling Economic Information Study Update for Illinois*, Nov. 2010, prepared by DSM Environmental under contract to Illinois Recycling Association.

⁶ *Recycling and Jobs in Massachusetts*, March 2012.

⁷ <http://www.recyclinginsc.com/directory>

Results

Facility Information 2013 Survey

Type	Percent
Hauler	25.5%
Manufacturer	19.1%
Broker	25.5%
Processor	57.4%
Remanufacturer	6.4%
Reuse	2.1%
Recycling equipment Manufacturer	2.1%

One of the characteristics of this industry is that firms are often multi-product firms. A firm could be both a hauler and a manufacturer. Thus the total adds to more than 100%.

27.7% of the firms were multiple categories, indicating a high degree of multi-product activity.

The results from the 2005 survey are reported below.

**Facility Information
2005 Survey**

Type	Percent
Hauler	27.9%
Manufacturer	37.7%
Broker	16.4%
Processor	49.2%
Remanufacturer	2%
Reuse	2.3%

Materials 2013

Material	Percent
Bio-mass	27.7
Metals	34
Petroleum	4.3
Glass	14.9
Electronics	8.5
Organics	8.5
Rubber	8.5
Paper	23.4
Construction – Demolition	14.9
Textiles	21.3
Miscellaneous	8.5
Plastics	53.9

53.9% of the firms indicate that they collect plastics. Again, some firms recycle more than one type material, so the percentages add to more than 100%. In fact 51% of the firms processed more than one material.

Employment

A number of firms engage in recycling activities but recycling is not their main business activity. Recycling was the only business for 61.7% of the firms surveyed. The range was 100% to 4%.

The average number of employees in the industry is 63. The largest firm reported 577 employees while the smallest reported 1 employee. The median is 14 employees per firm. In the 2005 survey the average was 75 while the median was 30 employees per firm. The number of firms identified as being in the industry has increased while the firm size has decreased.

For the purpose of determining economic impacts, the percentage of the firm's business engaged in recycling was applied to the total number of employees to determine the number of employees actually engaged in recycling. We estimate that the average number of employees per firm engaged in recycling activities is 43. This implies 22,403 jobs in the state are attributable to recycling.

The average payroll per employee in the industry was reported to be \$40,203. This compares to the 2005 average of \$32,229. The latest data from the Bureau of Labor Statistics indicates that the average wage in S.C. is \$38,700.⁸

Expansion Plans

63.8% of the firms indicated that they are planning an expansion in their business hiring an average of 3.5 additional employees in 2014. The largest expansion was 25 employees. In

⁸ May 2012 State Occupational Employment and Wage Estimates South Carolina, Bureau of Labor Statistics.

terms of capital investment in the next five years, the average was \$709,450. With 521 firms in the industry, this implies 332 firms will expand adding an additional 1,162 employees in 2014. As we found in 2005, the investment plans of the respondents match their outlook for the future. In other words, their expectations for the industry match their plans in their own firms. In 2005, the total investment anticipated in the next five years by the firms that responded was over \$365,630,000. The much larger expansion in investment in 2005 compared to 8 years later would seem to indicate that there was surge in activity that has leveled off. As indicated in the outlook, the respondents are still optimistic about the growth in the industry, but 8 years later it is apparently a more mature industry

Outlook

The respondents are very optimistic about recycling with 89% indicating that it is a growing industry. The average annual growth rate is 19%.⁹ In 2005, 84% of the firms responding reported an average annual growth rate of 12%.

A total of 524 businesses were identified as being in the recycling industry in South Carolina. All firms listed were sampled by mail. In addition, firms were contacted via the industry newsletter. Three surveys were returned as undeliverable. Thus the population is estimated to be 521 firms. A total of 47 surveys were completed. The economic impact analysis uses 521 firms as the base with an average of 43 employees engaged in recycling. This implies a total employment of 22,403 in the industry compared to the 15,600 we estimated in 2005.¹⁰ This represents a 44% increase in recycling employment from 2005 to 2013 which implies a 4.7%

⁹ This could be in terms of revenue and/or material

¹⁰ We are using a simplistic approach and are not accounting for survey error. A confidence interval could be calculated. The 95% confidence interval for the average number of employees (total) ranges from 101 to 25.

annual growth rate. The survey response in 2005 estimated a more optimistic 12% over the next five years. In 2005 no one was predicting the Great Recession. A 4.7% growth must be viewed in the context of the Recession.¹¹

Multiplier Concept

The survey results provide information on what is termed a “**direct impact**.” The direct impact is the initial spending or job generated by the firm engaged in recycling activities. In order to understand the complete economic impact of the recycling industry, we must also consider what are called “ripple effects.” Ripple effects comprise indirect and induced impacts. The concept is fairly straight forward and often analysts refer to the idea of dropping a stone in a pond. The initial splash is the direct impact. The accompanying ripples are the “multiplier effects.”

Consider a recycling facility. The plant hires workers and pays a payroll. The operations of the plant are the direct expenditures. In the process of its operations the firm may purchase goods and services from other companies. Those purchases are termed the “**indirect impacts**.” For example, a recyclable materials processor purchases machinery from machinery manufacturers who in turn purchase raw materials, parts, and services from other industries. Further, the recyclable materials processor provides processed feedstock to other manufacturers who then sell their product. The employees in turn spend their paychecks, which in turn generates additional impacts. These impacts are termed “**induced impacts**.”

¹¹ Between 2005 and 2013, manufacturing at the national level lost jobs.

As an example, consider \$1,000,000 in output (direct impact) of a firm in the Waste Management and Remediation Services sector.¹²

**Multiplier Effects Example
Waste Management and Remediation
\$1,000,000 Output**

Impact Type	Employment	Labor Income	Output
Direct Effect	3.8	\$347,427	\$1,000,000
Indirect Effect	2.4	\$115,203	\$317,462
Induced Effect	2.8	\$105,795	\$338,148
Total Effect	9	\$568,424	\$1,655,610

IMPLAN (Impact analysis for Planning) estimates that a firm producing \$1,000,000 in waste management services will have 3.8 employees. An additional 2.4 jobs will be supported by the suppliers to this firm. The induced effect, which represents the jobs generated by the spending of all of the employees in the supply chain is 2.8. The total effect is thus 9. This implies that a total of 2.37 jobs will be generated for every person employed in this sector. The \$1,000,000 “multiplies” to a total of \$1,655,610, which implies an economic activity multiplier of 1.66. (rounded)

Other sectors that IMPLAN identifies as being impacted by this firm include food services and drinking places, employment services, real estate, physicians, dentists, and wholesale and retail trade. This is what is meant by the “ripple effect.”

¹² IMPLAN sector 390.

Economic Impact 2013

Impact Type	Employment	Labor Income	Output
Direct Effect	22400.76	\$1,293,016,387	\$8,363,868,833
Indirect Effect	18249.48	\$888,971,964	\$3,023,323,182
Induced Effect	13473.16	\$504,286,736	\$1,611,818,582
Total Effect	54121.17	\$2,686,275,065	\$12,999,010,597

Our estimate of the direct employment in the industry is **22,400**. The total employment effect is calculated by IMPLAN to be **54,121** earning a labor income of **\$2,686,275,065**. The total economic activity in the state attributable to recycling is about **\$13 billion**.

Total state and local taxes from the total activity is estimated to be **\$328,674,861**.

Expansion Impact 2014

The survey also asked whether the firms anticipate hiring more employees in 2014. It is estimated that the 2013 impacts will be increased in 2014 an additional **2,807** jobs, paying **\$139,331,858** and generating an additional economic contribution to the state's economy of **\$674,233,376**. This economic activity will also increase state and local taxes by **\$17,047,725**. By way of comparison the economic expansions reported for 2013 by the S.C. Department of Commerce are presented in Appendix F.

Expansion Impact 2014

Impact Type	Employment	Labor Income	Output
Direct Effect	1161.884	\$67,066,243	\$433,817,595
Indirect Effect	946.5652	\$46,109,245	\$156,813,888
Induced Effect	698.8268	\$26,156,371	\$83,601,892
Total Effect	2807.16	\$139,331,858	\$674,233,376

APPENDIX A

THE INPUT - OUTPUT MODEL

This section presents a brief description of how regional input-output models are used to estimate economic impacts. Much of the material included is found in a more complete exposition written by Hefner (1997).¹³

The basis for impact analysis is the input-output (I-O) table. The table is constructed with data on detailed inter-industry flows throughout an economy and information on both final demands and total output. An I-O table is fundamentally an accounting relationship for an entire economy (national, state, or sub-state), with each industry represented as both a column and a row in a matrix. In simple terms, it is a set of recipes for production in a given economy. The table provides data on industry demands and supplies to all industries. The multipliers that are used in measuring economic impacts are calculated from the I-O table.

A simple numerical example containing hypothetical data of a two sector economy input-output table is presented in Figure 1.

Figure 1.
Hypothetical Input - Output Table

	Con	Manu	Final Demand	Total Output
Con	200	100	700	1000
Manu	400	500	1100	2000

In this example, the manufacturing sector delivers to final demand \$1,100 worth of goods. Final demand is the finished product that is used by a consumer. In addition, this sector provided \$400 of output to the construction sector and \$500 to itself. The total output of

¹³Hefner, Frank (1997). "Using Input-Output Models to Measure Local Economic Impacts." *International Journal of Public Administration*, 20 (8&9): 1469-1487.

manufacturing is the row total, or \$2,000. From the column of manufacturing data, it is apparent that to produce the \$1100 of final goods, the manufacturing sector used \$500 worth of its own output and \$100 of output from the construction sector. These demands for goods to be used in the production of goods delivered to final demand are termed intermediate demands.

Wassily Leontief, 1973 Nobel Prize winner in economics, developed the mathematical technique to calculate what is now called the Leontief Inverse, which posits that changes in one economic sector cause a ripple effect into other sectors of the economy. The inverse allows researchers to determine the total effects of a change in final demand. For example, in our simple model above the manufacturing sector utilizes inputs from both its own sector and construction. Construction, in turn, to meet this increase in demand, uses inputs from manufacturing. The Leontief inverse is a mathematical tool that calculates the total round by round changes in demands. The direct impact is the initial change in final demand. The total intermediate demands (the supplier chain) are the indirect impacts. By adding to this simple model a row for payments to labor by the firm (wages) and a column of expenditure patterns (the marginal propensity to consume each type of product), the multipliers derived from the Leontief inverse will incorporate the direct, indirect, and induced impacts. The induced impacts are additional expenditures resulting from increased earnings by local residents as a result of the increase in final demand.

Economic Impact Analysis – Terminology

Term	Definition
Economic activity	Sales of firms within the region.
Jobs	The number of jobs in the region supported by the economic activity associated with the economic activity. IMPLAN jobs include all full-time, part time, and temporary positions. Job estimates are not full time equivalents, but include part time positions. Seasonal jobs are adjusted to annual equivalents, thus 1 job lasting 12 months = 2 jobs lasting 6 months each = 3 jobs lasting 4 months each.
Income	Labor income, including wages and salaries, payroll benefits and incomes of sole proprietors.
Direct effects	Direct effects are the initial changes in sales, income and jobs in those businesses or agencies that directly receive the spending directly. This is the initial impact.
Indirect effects	The impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy.
Induced effects	Changes in economic activity in the region resulting from household spending of income earned through a direct or indirect effect. For example, employees in a recycling facility live in the region and spend their incomes on housing, groceries, education, clothing and other goods and services.
Total Output	Sum of direct, indirect and induced effects. <ul style="list-style-type: none"> ▪ Direct effects accrue largely to tourism-related businesses in the area ▪ Indirect effects accrue to a broader set of businesses that serve these firms. ▪ Induced effects are distributed widely across a variety of local businesses that provide goods and services to households in the region.
Multipliers	Multipliers capture the size of the total effects relative to the direct effects.

APPENDIX B

IMPLAN

In the mid-1970s, the USDA Forest Service developed IMPLAN (Impact Analysis for Planning) for community impact analysis. IMPLAN is a regional economic impact model. The current IMPLAN input-output database and model is maintained and sold by MIG, Inc. (Minnesota IMPLAN Group). All economic impact models use data developed by the U.S. Department of Commerce and follow the methodology described above. According to the USDA, Natural Resources Conservation Service, over 1,500 clients across the country use the IMPLAN model making the results acceptable in inter-agency analysis within the government.¹⁴ IMPLAN users range from federal, state, and local governments, universities, and private companies. In South Carolina the model is used by university researchers at Clemson, the University of South Carolina, Coastal Carolina University, and The Citadel.

In 2013, MIG was purchased by IMPLAN Group LLC and relocated from Minnesota to Huntersville, N.C., just north of Charlotte.

¹⁴ <http://www.economics.nrcs.usda.gov/technical/implan/implanmodel.html>, August 21, 2009.

APPENDIX C

AUTHOR

Frank Hefner, Ph. D., is a Professor of Economics and director of the Office of Economic Analysis at the College of Charleston. He received his B.A. Degree in Economics from Rutgers College and his M.A. and Ph.D. Degrees from the University of Kansas. He taught at Washburn University in Topeka while he was a research assistant in the Institute for Policy and Social Research at the University of Kansas and at the University of South Carolina where he served as a research economist in the Division of Research. Dr. Hefner's research interests include regional economic development and forecasting. He participates in the Regional Advisory Committee of the S.C. Board of Economic Advisors. He is a past president of the Southern Regional Science Association. He has been quoted frequently in the press and has commented on economic conditions on local television and radio stations and before a number of organizations.

Economic Impact Resume (Selected works)

Hefner, Frank, Brumby McLeod, and John Crotts. (forthcoming) "Research Note: An Analysis of Cruise Ship Impact on Local Hotel Demand – An Event Study in Charleston, SC," *Tourism Economics*. (available on line <http://dx.doi.org/10.5367/te.2013.0328>)

Hefner, Frank, *Impact Analysis for Film Production in South Carolina*, South Carolina Council for Economic Development, April 29, 2008

Hefner, Frank, and Calvin Blackwell, "The Economic Impact of the Recycling Industry in South Carolina," *Southern Business Review*, Spring 2007, Vol. 32, no. 2, pp. 33-41.

Hefner, Frank, and J. Michael Morgan, "The Economic Impact of a University: A Critical Review of the Issues," *Journal of Business, Industry, and Economics*, Vol. 7, Spring 2006, pp. 63-77.

Hefner, Frank, John Crotts, and Julie Flowers "The Cost-Benefit Model as Applied to Tourism Development in the State of South Carolina, USA," *Tourism Economics*, June 2001, Vol. 7, No. 2, pp. 163-175.

Recent Consulting Projects

Economic Impact of the S.C. Clinical and Translational Research Institute. 2011

Economic Impact of the Charleston School of Law. 2010

Economic Impact of Two Hospitals in Berkeley County. 2009-2010

Economic Impact of the Cruise Ship Industry (joint with John Crotts) 2009

APPENDIX D

COVER LETTER

SURVEY INSTRUMENT

(The survey instrument was formatted to fit on one page when it was mailed. The sample in this Appendix is formatted to accommodate the margins in the report).



Dear Recycler,

South Carolina's recycling industry has grown and is projected to continue to grow. In 2006, the South Carolina Department of Health and Environmental Control and the Department of Commerce asked a team of researchers at the College of Charleston to measure the economic benefits of recycling activities on South Carolina's economy. The results are summarized on this web site: <http://recyclonomicsc.com/economicimpact.aspx>

New Carolina - SC Council on Competitiveness has asked me to update the 2006 results.

Your firm has been identified as a member of South Carolina's recycling industry. We have included a short survey which will help us measure the total impact of all firms within the industry in the state. **Individual survey responses will be held confidential.** Results will be reported in total for the state.

We appreciate your participation in this study and thank you in advance for completing the enclosed survey. Please return using the enclosed envelope; e-mail to hefnerf@cofc.edu; or FAX to Frank Hefner 843 -953-0754. We would appreciate a reply by January 24, 2014.

If you have any questions regarding the survey, please contact Frank Hefner at 843-953-8111 (or hefnerf@cofc.edu)

Sincerely,

Frank Hefner
Professor of Economics
Department of Economics and Finance
College of Charleston
Charleston, SC 29424

(843) 953-8111

South Carolina Recycling Industry Survey

Please return by mail in enclosed envelope; e-mail to hefnerf@cofc.edu,
or FAX (843) 953-0754

Please answer to the best of your ability (best guess). Although answers will be confidential, please skip any question you are uncomfortable with and answer the rest.

Facility Information NAICS code _____

Which category best defines your role as a recycling company (check all that apply):

Hauler	<input type="checkbox"/>	Manufacturer	<input type="checkbox"/>	Broker	<input type="checkbox"/>
Processor	<input type="checkbox"/>	Remanufacturer	<input type="checkbox"/>	Reuse	<input type="checkbox"/>
Recycling Equipment Manufacturer					<input type="checkbox"/>

Materials Collected for Recycling

Please check which types of materials your company recycles (check all that apply)

Biomass-Wood	<input type="checkbox"/>	Metals	<input type="checkbox"/>	Petroleum	<input type="checkbox"/>	Glass	<input type="checkbox"/>
Electronics	<input type="checkbox"/>	Organics	<input type="checkbox"/>	Rubber	<input type="checkbox"/>	Paper	<input type="checkbox"/>
Construction-Demolition	<input type="checkbox"/>	Textiles	<input type="checkbox"/>	Miscellaneous	<input type="checkbox"/>	Plastics	<input type="checkbox"/>

1. Total number of employees in 2013 _____.
2. Total payroll (total annual) 2013 _____.
3. Percent of your business engaged in recycling _____ %

Expansion plans for recycling

1. How many more employees engaged in recycling do you plan to hire in 2014? _____
2. Do you plan to invest in more plant capacity, equipment, or land in the next five years for recycling?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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Approximate investment amount \$ _____

Industry Outlook (next five years)

1. Is recycling a growing

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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 industry?
2. Estimate the growth as a percentage annual rate? _____ %

Optional: Your firm's name _____

Thank you for your participation.

Questions may be directed to Frank Hefner, (843) 953- 8111, or hefnerf@cofc.edu

APPENDIX E

Survey Results

N	NAICS Code	Implan Code	Total # Employees	Total Payroll	Average Payroll	Percent	Recycling Jobs
1			24	\$836,268	\$34,845	100	24
2			3	\$198,500	\$66,167	100	3
3	03714	213	445		\$0	100	445
4	313110	172	163		\$0	100	163
5			75	\$3,750,000	\$50,000	15	11.25
6	311991	69	577	\$19,000,000	\$32,929	98	565.46
7	562998	390	6	\$118,000	\$19,667	100	6
8			4		\$0	100	4
9	423930	319	10	\$31,500	\$3,150	100	10
10	42193	319	20		\$0	100	20
11			1	\$15,000	\$15,000	100	1
12	424610	319	120	\$6,000,000	\$50,000	19	22.8
13			1	\$54,000	\$54,000	100	1
14	3341	214	43		\$0	96	41.28
15	333249	207	15	\$800,000	\$53,333	65	9.75
16	3311	69	346	\$30,200,000	\$87,283	100	346
17	423930	319	40	\$1,713,945	\$42,849	100	40
18	229502		38	\$900,000	\$23,684	100	38
19			9	\$265,000	\$29,444	100	9
20	326299	152	45	\$1,419,697	\$31,549	100	45
21			1	\$32,400	\$32,400	25	0.25
22	321920	100	14	\$176,413	\$12,601	5	0.7
23			24		\$0	40	9.6
24			2	\$58,240	\$29,120	5	0.1
25			2		\$0	100	2
26			2	\$60,000	\$30,000	4	0.08
27			6	\$310,000	\$51,667	100	6
28			21		\$0	20	4.2
29	562920	390	6		\$0	100	6
30			2	\$150,000	\$75,000	99	1.98
31			6	\$40,000	\$6,667	100	6
32			2	\$23,000	\$11,500	70	1.4
33	423930	319	5	\$200,000	\$40,000	100	5
34	423930	319	7	\$160,000	\$22,857	100	7

35			14	\$750,000	\$53,571	90	12.6
36			23		\$0	15	3.45
37	562820	319	12	\$250,000	\$20,833	100	12
38	237310	39	185	\$7,855,042	\$42,460	20	37
39	321920	100	35	\$797,908	\$22,797	100	35
40			95	\$4,500,000	\$47,368	15	14.25
41			5		\$0	100	5
42			22		\$0	10	2.2
43			1	\$54,000	\$54,000	100	1
44			13		\$0	100	13
45			450		\$0	4	18
46	56292	390	2	\$20,000	\$10,000	100	2
47			15	\$400,000	26666.67	100	15

Distribution of Industries

Other commercial manufacturing
Alumina refining
All other food manufacturing
Wholesale trade
Air purification and ventilation equipment manufacturing
Other industrial machinery manufacturing
Industrial machinery manufacturing
Rubber product manufacturing
Wood container and pallet manufacturing
Waste management and remediation services
Highway, street and bridge construction
Wood container and pallet manufacturing

A total of 2,957 jobs were identified by sector through the survey. Of this amount, 2,026 were identified as being engaged in recycling activities.

APPENDIX F

SCDOC Recruitment Results 2013

Totals:

Jobs Recruited	Capital Investment Recruited	Projects
15,457	\$5,410,821,101	127

By Category:

Category	Jobs Recruited	Capital Investment Recruited	Projects
Manufacturing	10,442	\$4,455,395,613	107
Research & Development	57	\$32,800,000	3
Service	4,408	\$864,380,428	11
Warehousing & Distribution	550	\$58,245,060	6

Note: All non-manufacturing categories could be combined into "Service."

By Objective:

Objective	Jobs Recruited	Capital Investment Recruited	Projects
Expansion	6,386	\$2,806,126,669	73
New	9,071	\$2,604,694,432	54

By Origin:

Source	Jobs Recruited	Capital Investment Recruited	Projects
Domestic	11,697	\$3,084,203,790	84
Foreign	3,760	\$2,326,617,311	43

Top Announcements for 2013:

Top 10 by Jobs

Company	County	Objective	Announced Investment	Announced Jobs	Announcement Date
The Boeing Company (SC)	Charleston	Expansion	\$1,000,000,000	2000	2013-04-09
Benefitfocus.com, Inc.	Berkeley	Expansion		1200	2013-12-16
STARTEK Inc.	Horry	New	\$10,000,000	665	2013-12-16
Time Warner Cable	Lexington	Expansion	\$24,000,000	644	2013-01-04
Keer	Lancaster	New	\$218,000,000	501	2013-12-16
Element Electronics	Fairfield	New	\$7,500,000	500	2013-08-22
ZF Transmissions Gray Court	Laurens	Expansion	\$175,000,000	450	2013-07-26
JN Fibers, Inc.	Chester	New	\$45,000,000	318	2013-09-25
EcoDual	Beaufort	New	\$13,000,000	307	2013-06-20
Colgate-Palmolive Company	Greenwood	New	\$196,000,000	300	2013-10-07

Top 10 by Capital Invested

Company	County	Objective	Announced Investment	Announced Jobs	Announcement Date
The Boeing Company (SC)	Charleston	Expansion	\$1,000,000,000	2000	2013-04-09
Google	Berkeley	Expansion	\$600,000,000		2013-01-18
Keer	Lancaster	New	\$218,000,000	501	2013-12-16
Michelin North America	Anderson	Expansion	\$200,000,000	100	2013-01-24
Colgate-Palmolive Company	Greenwood	New	\$196,000,000	300	2013-10-07
ZF Transmissions Gray Court	Laurens	Expansion	\$175,000,000	450	2013-07-26
Harbor Freight Tools USA	Dillon	Expansion	\$75,000,000	200	2013-04-04
Essex Holdings Inc.	Marion	New	\$54,400,000	215	2013-03-27
Albert Weber - Weber Automotive Corp.	Charleston	New	\$51,000,000	84	2013-07-08
Fitesa	Greenville	Expansion	\$50,000,000	32	2013-11-07