

**Economic Impact Study** 

# **U.S.- BASED RECYCLED MATERIALS INDUSTRY**

### 2024 Executive Summary





Recycled Materials Association Sustainable. Resilient. Essential.

## **Executive Summary**

recycledmaterials.org/economic-impact

The recycled materials industry is an integral part of the U.S. and global economy, providing high-quality, renewable resources for everything from essential national infrastructure, like bridges and buildings, to everyday consumer products like laptops, soda cans, boxes, and cars. In 2021, the Institute of Scrap Recycling Industries (ISRI) hired John Dunham & Associates, an independent economic consulting firm, to conduct an economic impact analysis of the recycled materials industry in the United States. The study aimed to document the industry's size, scope, and significant contributions to the U.S. economy in terms of employment, tax generation, and overall economic benefits. Since that time, ISRI has been transformed into the Recycled Materials Association (ReMA). This analysis presents an update to the 2021 study.

#### BACKGROUND

The study confirmed that the U.S. recycled materials industry plays a prominent role as an economic leader, job creator, and major exporter. Specifically, the study found that the people and operators that provide the recyclable material for manufacturing new products provide nearly 600,000 adults with good jobs in the United States<sup>1</sup> and generate approximately \$168.63 billion annually in economic activity.

The industry recycled more than **137 million metric tons** of materials in 2022.

The U.S. recycled materials industry is not only a thriving economic engine, but also a pivotal player in environmental protection, resource conservation, and sustainability. The industry recycled more than 137 million metric tons of materials in 2022, producing high-quality raw materials<sup>2</sup> and reducing the need to mine, drill, and extract from the planet. Recycling also reduces greenhouse gas emissions by significantly saving the amount of energy needed to manufacture the products we buy, build, and use every day. The energy saved by recycling may then be used for other purposes, such as heating our homes and powering our cars.

#### Estimated Economic Impact of the Recycled Materials Industry (2024)

Nonattainment Classification	lonattainment Direct lassification		Induced	Total		
Jobs	171,467	215,453	209,236	596,156		
Wages	\$15,446,436,800	\$17,939,716,300	\$14,181,760,700	\$47,567,913,800		
Economic Impact	\$66,027,150,600	\$58,431,104,400	\$44,173,649,100	\$168,631,904,100		

Note that totals may not add due to rounding

<sup>&</sup>lt;sup>1</sup> Full time equivalent jobs (FTE)

<sup>&</sup>lt;sup>2</sup> 2023 ReMA Yearbook, Undated, Available on-line at: https://www.isri.org/docs/default-source/default-documentlibrary/rema-yearbook\_2023.pdf?sfvrsn=61627f12\_2. These are the latest figures available.

# **Summary of Findings**

#### **EMPLOYMENT: SOURCE OF GREEN JOBS**

While many in the public policy world talk about the need for more green jobs, the recycled materials industry has already been creating these environmentally friendly jobs in the United States for decades. The study found that in 2024, the recycling operations within the industry directly supported nearly 171,470 FTE jobs in the United States.<sup>3</sup> These are good jobs, paying an average of \$90,100 in wages and benefits to American workers. In addition to this, 424,690 FTE jobs throughout the U.S. economy are indirectly supported by the recycled materials industry through suppliers and the indirect impact of the industry's expenditures.<sup>4</sup>



#### **U.S. Recycling Industry Facilities**

These are real people with real jobs—not only in firms that directly source high-quality raw materials for manufacturers, but also those that support those operators, like material suppliers, machinery providers, and transporters. In addition, thousands of people in industries seemingly unrelated to the recycled materials industry, from servers in restaurants, to construction workers, to teachers in local schools, depend on the re-spending of the wages and taxes paid by the recycled materials industry to their workers and suppliers.

The economic benefits generated by the recycled materials industry are widespread. Recycling centers are in every state throughout the country, in both urban and rural communities. Operators and technicians that supply materials as well as goods and services to recycling facilities are also

<sup>&</sup>lt;sup>3</sup> This includes firms involved in the purchasing, processing, and brokering of recycled materials including ferrous and nonferrous metals, paper, electronics, rubber, plastics, glass, and textiles.

<sup>&</sup>lt;sup>4</sup> Direct impacts are those associated with recycled material processors and brokers. Supplier impacts are associated with firms providing goods and services to recycled material recyclers and brokers, including peddlers, and induced impacts are those resulting from the re-spending of wages by workers in the direct and supplier sectors.

located in every part of the country. This means that the U.S. recycled materials industry provides good-paying jobs in every state in the union.

The study results are broken down by state and congressional districts at recycledmaterials.org/ economic-impact.

#### OVERALL ECONOMIC ACTIVITY

The activities of the recycled materials industry in the United States generate nearly \$168.6 billion annually in economic benefits here at home. All told, the U.S. recycled materials industry accounts for 0.72 percent of the nation's total economic activity.<sup>5</sup> The activities of the recycling industry in the U.S. generate nearly **\$168.6 billion** annually in economic benefits.

#### TAX REVENUES TO FEDERAL, STATE, AND LOCAL GOVERNMENTS

The recycled materials industry generates substantial revenues for federal, state, and local governments throughout the United States.

- The industry generates about \$7.16 billion in state and local revenues annually—revenues that are used to help communities and people throughout the country.
- Another \$11.55 billion in federal taxes are paid annually by the industry and its employees.

#### EXPORT ACTIVITIES: CREATING THOUSANDS OF JOBS HERE AT HOME

Recycled materials are among the nation's largest exports by value, and overall, exports account for 30.67 percent of the industrys economic activity. These exports create approximately 187,450 good jobs (FTE) in the United States and help strengthen the national economy. According to the study, 54,485 FTE jobs are directly supported by the export activities associated with recycled materials facilities operating in the United States.<sup>6</sup>

Nonattainment Classification	Direct	Supplier	Induced	Total
Jobs	54,485	66,406	66,564	187,455
Wages	\$5,014,347,926	\$5,758,847,876	\$4,662,289,560	\$15,435,485,362
Economic Impact	\$20,658,030,596	\$18,062,790,320	\$13,002,533,514	\$51,723,354,430

#### Estimated Economic Impact of U.S. Recycled Material Exports (2024)

Note that totals may not add due to rounding

<sup>5</sup> Gross Domestic Product, 4th Quarter and Year 2024 (Advance Estimate), US Department of Commerce, Bureau of Economic Analysis, January 30, 2025, at: https://www.bea.gov/sites/default/files/2025-01/gdp4q24-adv.pdf.

<sup>6</sup> This includes firms involved in the purchasing, processing and brokering of scrap materials including ferrous and nonferrous metals, paper, electronics, rubber, plastics, glass, and textiles.



Through access to international markets, the nation's recycled materials producers create demand for materials that might otherwise go to waste.

The industry's continuous innovation and increased efficiency has led to a surplus of recycled materials that can then be used for export. By selling surplus recycled material to other countries where demand for those high-quality raw materials is highest, the recycled materials industry further supports the growth of the American economy.

The recycled materials industry is the first link in the global supply chain for the growing demand of high-quality materials, ranging from iron and steel to paper; nonferrous metals such as aluminum, copper, and zinc; plastics; electronics; rubber; and more. The result is a more economically resilient and sustainable manufacturing supply chain, made possible by the industry's supply of high-quality, environmentally and energy-efficient raw materials to the global marketplace.

In 2023, the industry exported nearly \$20.2 billion in high-quality recycled materials significantly helping the U.S. balance of trade.<sup>7</sup> In fact, in terms of volume, recycled materials are among the nation's largest commodity exports, in line with other important commodity export products like grain and corn, cotton, timber, and petroleum. The recycled materials processed in the United States are exported to other countries for manufacture into new products.

### ECONOMIC BENEFITS OF EXPORTING RECYCLABLE MATERIALS ARE NO DIFFERENT THAN THOSE THAT OCCUR EXPORTING ANY OTHER PRODUCT

International trade is an important part of the American economy. In 2024, nearly \$3.19 trillion in goods and services were exported from the United States and about \$4.11 trillion were imported.<sup>8</sup> The U.S. International Trade Administration projects that U.S. exports supported an estimated 10.2 million jobs in 2022.<sup>9</sup>

To suggest that the export of recyclable materials would somehow destroy jobs in the United States is no different than stating that the export of corn, coal, or cotton, somehow takes away American jobs. One way that China has responded to the tariffs imposed by the Trump Administration in 2019 was to greatly reduce their import of US recycled materials.<sup>10</sup>

#### ECONOMIC AND JOB IMPACTS ON A STATE-BY-STATE LEVEL

The study also calculated the impact of the U.S.-based recycled materials industry on a stateby-state basis (as well as by congressional districts). Specific tables—by state, and congressional district can be accessed at recycledmaterials.org/economic-impact.

<sup>&</sup>lt;sup>7</sup> Op. Cit. Footnote 1.

<sup>&</sup>lt;sup>8</sup> U.S. International Trade in Goods and Services, December and Annual 2024 | U.S. Bureau of Economic Analysis (BEA)

<sup>&</sup>lt;sup>9</sup> Jobs Supported by Exports - National, International Trade Administration. Accessed January 30, 2025. Available on-line at: https://www.trade.gov/jobs-supported-exports-home-page

<sup>&</sup>lt;sup>10</sup> Staub, Colin. "Recycling will likely feel tariff impacts—again," Resource Recycling. May 21, 2019. Available online at https://resource-recycling.com/recycling/2019/05/21/recycling-will-likely-feel-tariff-impacts-again/.

	DIRECT		SUPPLIERS			INDUCED			TOTAL			
	Jobs	Wages	Output									
AL	4,079	\$354,086,000	\$1,909,553,700	5,748	\$407,208,400	\$1,500,937,000	4,505	\$269,858,600	\$853,731,300	14,332	\$1,031,153,000	\$4,264,222,000
AK	211	\$20,294,000	\$69,490,800	230	\$23,060,700	\$72,602,900	236	\$16,641,600	\$75,015,300	677	\$59,996,300	\$217,109,000
AZ	2,943	\$336,996,600	\$1,093,361,200	3,706	\$308,138,600	\$979,890,100	4,168	\$276,256,900	\$856,259,200	10,817	\$921,392,100	\$2,929,510,500
AR	1,963	\$151,739,000	\$728,003,600	2,357	\$169,141,000	\$610,770,900	2,074	\$123,934,000	\$414,301,700	6,394	\$444,814,000	\$1,753,076,200
CA	18,402	\$1,858,639,800	\$7,311,963,400	22,017	\$2,034,516,100	\$6,108,920,100	23,242	\$1,702,783,400	\$5,090,057,700	63,661	\$5,595,939,300	\$18,510,941,200
со	1,499	\$127,708,600	\$473,535,800	1,922	\$167,772,300	\$577,559,000	2,045	\$139,568,100	\$499,016,500	5,466	\$435,049,000	\$1,550,111,300
СТ	2,038	\$174,964,800	\$658,588,500	2,126	\$192,456,200	\$586,113,700	2,229	\$165,861,000	\$500,374,000	6,393	\$533,282,000	\$1,745,076,200
DE	239	\$20,355,300	\$74,932,400	277	\$26,340,200	\$109,328,800	286	\$23,479,000	\$104,174,800	802	\$70,174,500	\$288,436,000
DC	35	\$2,322,600	\$9,633,200	38	\$3,958,800	\$13,317,900	54	\$4,469,200	\$40,101,800	127	\$10,750,600	\$63,052,900
FL	7,941	\$691,839,800	\$2,933,019,400	11,410	\$828,183,400	\$2,511,512,700	11,105	\$694,427,300	\$2,116,376,300	30,456	\$2,214,450,500	\$7,560,908,400
GA	4,863	\$379,747,400	\$1,926,386,700	7,006	\$525,045,100	\$1,700,582,000	6,217	\$395,309,600	\$1,242,463,100	18,086	\$1,300,102,100	\$4,869,431,800
н	677	\$65,199,900	\$231,020,300	642	\$50,253,100	\$147,029,100	737	\$47,882,100	\$164,308,100	2,056	\$163,335,100	\$542,357,500
ID	562	\$60,951,500	\$216,999,600	719	\$56,194,100	\$186,833,700	760	\$48,295,300	\$187,579,300	2,041	\$165,440,900	\$591,412,600
IL	9,739	\$978,493,900	\$3,584,592,100	11,269	\$984,202,000	\$3,063,981,200	12,369	\$854,343,500	\$2,565,364,500	33,377	\$2,817,039,400	\$9,213,937,800
IN	7,972	\$682,250,400	\$3,523,842,200	10,065	\$797,562,600	\$2,766,960,400	8,877	\$580,022,500	\$1,760,399,600	26,914	\$2,059,835,500	\$8,051,202,200
IA	1,944	\$128,598,500	\$555,421,200	2,002	\$158,255,200	\$567,904,000	1,969	\$133,852,600	\$471,505,000	5,915	\$420,706,300	\$1,594,830,200
KS	1,221	\$92,533,400	\$379,799,700	1,392	\$115,706,100	\$368,048,300	1,367	\$92,065,700	\$308,720,600	3,980	\$300,305,200	\$1,056,568,600
KY	2,460	\$215,128,100	\$1,275,404,200	3,782	\$292,426,100	\$1,100,860,200	3,064	\$192,289,200	\$634,108,500	9,306	\$699,843,400	\$3,010,372,900
LA	1,632	\$128,078,800	\$579,038,900	2,194	\$169,984,200	\$769,084,300	1,927	\$119,803,800	\$442,926,700	5,753	\$417,866,800	\$1,791,049,900
ME	588	\$43,100,300	\$179,793,900	704	\$51,942,200	\$162,275,600	678	\$43,987,700	\$156,632,800	1,970	\$139,030,200	\$498,702,300
MD	2,070	\$164,240,700	\$645,272,200	2,177	\$171,324,500	\$515,235,100	2,144	\$143,155,300	\$448,834,000	6,391	\$478,720,500	\$1,609,341,300
MA	3,749	\$410,307,500	\$1,351,852,500	3,694	\$360,029,700	\$1,013,013,300	4,536	\$351,063,600	\$1,000,972,900	11,979	\$1,121,400,800	\$3,365,838,700
MI	4,942	\$431,423,300	\$1,775,687,400	6,619	\$526,249,400	\$1,763,118,900	6,274	\$404,686,700	\$1,294,768,900	17,835	\$1,362,359,400	\$4,833,575,200
MN	3,653	\$364,815,700	\$1,475,155,800	4,327	\$386,589,400	\$1,178,518,600	4,777	\$332,945,500	\$1,023,210,600	12,757	\$1,084,350,600	\$3,676,885,000
MS	935	\$61,759,900	\$292,925,600	1,221	\$80,815,800	\$326,638,800	983	\$58,205,200	\$218,200,000	3,139	\$200,780,900	\$837,764,400
MO	3,209	\$270,010,300	\$1,178,993,400	4,149	\$328,305,800	\$1,073,644,500	3,847	\$247,694,800	\$779,627,700	11,205	\$846,010,900	\$3,032,265,600
MT	363	\$24,637,900	\$107,206,800	470	\$35,228,800	\$143,590,600	422	\$26,071,300	\$108,460,500	1,255	\$85,938,000	\$359,257,900
NE	800	\$56,441,800	\$236,671,900	906	\$74,413,700	\$254,315,200	931	\$67,306,000	\$240,190,200	2,637	\$198,161,500	\$731,177,300
NV	969	\$81,216,900	\$297,360,700	1,290	\$105,415,800	\$359,024,700	1,111	\$72,363,000	\$242,458,600	3,370	\$258,995,700	\$898,844,000
NH	761	\$63,311,700	\$243,586,000	829	\$73,492,900	\$211,984,000	803	\$56,842,400	\$184,751,400	2,393	\$193,647,000	\$640,321,400

#### Estimated Economic Impact of the Recycled Materials Industry by State (2024)

	DIRECT		SUPPLIERS			INDUCED			TOTAL			
	Jobs	Wages	Output									
NJ	5,557	\$507,894,100	\$1,969,227,100	6,128	\$556,976,600	\$1,619,472,900	6,236	\$447,753,800	\$1,322,621,300	17,921	\$1,512,624,500	\$4,911,321,300
NM	563	\$55,602,300	\$193,305,100	584	\$47,771,700	\$151,258,700	633	\$40,007,000	\$146,953,600	1,780	\$143,381,000	\$491,517,400
NY	7,494	\$683,388,700	\$2,649,397,100	7,738	\$750,630,400	\$2,209,949,100	8,287	\$678,613,000	\$1,960,464,500	23,519	\$2,112,632,100	\$6,819,810,700
NC	4,814	\$351,500,400	\$1,684,121,400	6,305	\$489,853,300	\$1,554,498,900	5,560	\$367,562,300	\$1,178,906,600	16,679	\$1,208,916,000	\$4,417,526,900
ND	310	\$29,867,200	\$124,298,000	331	\$29,143,700	\$109,469,900	359	\$24,892,300	\$115,880,400	1,000	\$83,903,200	\$349,648,300
ОН	9,020	\$756,884,500	\$3,380,301,100	12,000	\$948,987,800	\$3,276,795,200	11,112	\$711,286,100	\$2,128,939,600	32,132	\$2,417,158,400	\$8,786,035,900
OK	1,350	\$96,407,900	\$461,702,100	1,786	\$134,887,300	\$490,926,500	1,559	\$98,378,600	\$348,076,200	4,695	\$329,673,800	\$1,300,704,800
OR	4,017	\$ 350,965,100	\$ 1,624,654,200	4,895	\$ 409,695,100	\$ 1,216,106,800	4,536	\$ 303,800,400	\$ 872,923,700	13,448	\$ 1,064,460,600	\$ 3,713,684,700
PA	7,582	\$663,389,500	\$2,709,351,700	9,130	\$779,469,600	\$2,525,878,500	9,342	\$635,570,200	\$1,887,171,500	26,054	\$2,078,429,300	\$7,122,401,700
RI	881	\$81,444,800	\$293,474,800	887	\$71,967,000	\$210,228,700	924	\$61,600,700	\$197,925,900	2,692	\$215,012,500	\$701,629,400
SC	2,840	\$259,624,100	\$931,911,300	3,471	\$253,631,100	\$867,404,600	3,161	\$190,902,300	\$619,564,100	9,472	\$704,157,500	\$2,418,880,000
SD	204	\$8,533,300	\$37,308,700	222	\$18,858,700	\$83,144,400	244	\$18,089,900	\$100,377,400	670	\$45,481,900	\$220,830,500
TN	5,391	\$435,719,300	\$2,130,781,900	7,029	\$565,691,800	\$1,782,883,100	6,306	\$428,653,200	\$1,261,811,800	18,726	\$1,430,064,300	\$5,175,476,800
ТХ	13,587	\$1,192,799,400	\$5,361,968,000	19,607	\$1,657,251,100	\$6,104,826,000	18,973	\$1,251,899,900	\$4,072,324,200	52,167	\$4,101,950,400	\$15,539,118,200
UT	1,432	\$109,627,500	\$423,093,600	1,752	\$138,153,600	\$492,994,800	1,730	\$110,387,900	\$371,275,100	4,914	\$358,169,000	\$1,287,363,500
VT	235	\$22,419,100	\$82,872,400	260	\$20,170,600	\$63,557,400	284	\$18,111,400	\$80,671,800	779	\$60,701,100	\$227,101,600
VA	2,621	\$204,636,800	\$946,098,100	3,064	\$255,195,900	\$800,572,000	2,892	\$190,768,500	\$610,265,900	8,577	\$650,601,200	\$2,356,936,000
WA	5,195	\$670,184,700	\$3,093,370,700	7,096	\$687,099,500	\$2,055,864,500	6,334	\$466,490,200	\$1,414,924,200	18,625	\$1,823,774,400	\$6,564,159,400
WV	689	\$50,234,700	\$228,589,100	858	\$71,158,500	\$311,705,000	666	\$42,858,200	\$155,944,500	2,213	\$164,251,400	\$696,238,600
WI	4,959	\$459,454,000	\$2,315,247,600	6,752	\$526,174,900	\$ 1,663,611,500	6,119	\$393,615,200	\$1,231,622,400	17,830	\$1,379,244,100	\$5,210,481,500
WY	267	\$14,665,000	\$66,983,500	270	\$22,735,900	\$96,360,300	242	\$15,054,700	\$70,112,800	779	\$52,455,600	\$233,456,600
Total	171,467	\$15,446,436,800	\$66,027,150,600	215,453	\$17,939,716,300	\$58,431,104,400	209,236	\$14,181,760,700	\$44,173,649,100	596,156	\$47,567,913,800	\$168,631,904,100

#### Estimated Economic Impact of the Recycled Materials Industry by State (2024)—Continued

#### STUDY METHODOLOGY

The 2024 Recycled materials industry Economic Impact Study estimates the economic contributions made by the various components of the recycled materials industry to the U.S. economy in 2024. John Dunham & Associates conducted this research, which was funded by the Recycled Materials Association. This particular analysis used data from the 2021 study as a base and updated them based on industry level employment changes from the Bureau of Labor Statistics.

The 2021 analysis used standard econometric models maintained by IMPLAN Inc.<sup>11</sup> Data came from industry sources, government publications, and DataAxle.

Both the 2021 analysis and the 2024 update define the recycled materials industry as firms in the private sector involved in the processing and brokerage of recyclable materials, including plastics, rubber, paper, textiles, glass, and electronics. The study measures the number of jobs in the sector, the wages paid to employees, the value added, and the total output.

The study and the update also estimates taxes paid by the industry and its employees. Federal taxes include industry-specific excise and sales taxes, business and personal income taxes, FICA, and unemployment insurance. State and local tax systems vary widely. Direct retail taxes include state and local sales taxes, license fees, and applicable gross receipt taxes. Processors pay real estate and personal property taxes, business income taxes, and other business levies that vary in each state and municipality. All entities engaged in business activity generated by the industry pay similar taxes. Any excise and sales taxes paid by individuals who may purchase recycled materials from the businesses involved in processing or selling recycled materials are not included.

The 2021 economic impact study began with an accounting of the direct employment in the processing of recycled materials and the materials brokerage sectors. The data came from a variety of government and private sources. Each of the individual facilities in the industry were analyzed in the 2021 analysis, with JDA staff confirming the facility's existence, the type of operation and the jobs assigned to that location. These were aggregated by industry code.

<sup>11</sup> IMPLAN® model, 2019 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (2025), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078, www.IMPLAN.com.

Once the initial direct employment figures have been established, they are entered into a model linked to the IMPLAN database. The IMPLAN data are used to generate estimates of direct wages and output. Wages are derived from data from the U.S. Department of Labor's ES-202 reports that are used by IMPLAN to provide annual average wage and salary establishment counts, employment counts and payrolls at the county level. Since this data only covers payroll employees, it is modified to add information on independent workers, agricultural employees, construction workers, and certain government employees. Data are then adjusted to account for counties where non-disclosure rules apply. Wage data include not only cash wages, but health and life insurance payments, retirement payments and other non-cash compensation. It includes all income paid to workers by employers.

Total output is the value of production by industry in a given state. It is estimated by IMPLAN from sources similar to those used by the BEA in its RIMS II series.<sup>12</sup> Where no Census or government surveys are available, IMPLAN uses models such as the au of Labor Statistics' growth model to estimate the missing output.

The model also includes information on income received by the federal, state and local governments, and produces estimates for the following taxes at the Federal level: corporate income; payroll, personal income, estate and gift, and excise taxes, customs duties; and fines, fees, etc. State and local tax revenues include estimates of: corporate profits, property, sales, severance, estate and gift and personal income taxes; licenses and fees and certain payroll taxes.

While IMPLAN is used to calculate the state level impacts, Data Axle data provide the basis for congressional district level estimates. Publicly available data at the county and congressional district level is limited by disclosure restrictions, especially for smaller sectors of the economy. Our model therefore uses actual physical location data provided by Data Axle in order to allocate jobs—and the resulting economic activity—by physical address or when that is not available, zip code. For zip codes entirely contained in a single congressional district, jobs are allocated based on the percentage of total sector jobs in each zip code. For zip codes that are broken by congressional districts, allocations are based on the percentage of total jobs physically located in each segment of the zip. Physical locations are based on either actual address of the facility, or the zip code of the facility, with facilities placed randomly throughout the zip code area. All supplier and indirect jobs are allocated based on the percentage of a state's employment in that sector in each of the districts. Again, these percentages are based on Data Axle data.

<sup>&</sup>lt;sup>12</sup> RIMS II is a product developed by the U.S. Department of Commerce, Bureau of Economic Analysis as a policy and economic decision analysis tool. IMPLAN was originally developed by the US Forest Service, the Federal Emergency Management Agency and the Bureau of Land Management. It was converted to a user-friendly model by the Minnesota IMPLAN Group in 1993.

The 2024 update starts with the 2021 analysis and projects the values forward based on the percentage change in employment between 2021 and 2023, for each state as measured by the Bureau of Labor Statistics (BLS).<sup>13</sup> Data were bridged from the NAICS codes reported by the BLS, to the IMPAN industries and adjusted for inflation. The table below shows the average inflators for the sectors used to calculate the direct impact of the materials recycling industry.

Industry	Factor	Industry	Factor
Other textile product mills	99.1%	Iron, steel pipe and tube manufacturing from purchased steel	114.2%
Pulp mills	85.6%	Secondary smelting and alloying of aluminum	107.3%
Other plastics product manufacturing	96.4%	Secondary processing of other nonferrous metals	104.1%
Other rubber product manufacturing	98.8%	Waste management and remediation services	109.5%
Glass product manufacturing made of purchased glass	98.1%	Wholesale—Other durable goods merchant wholesalers	101.1%

#### Estimated Growth Factors From 2021 to 2024 by Sector (US Average)

Data used to calculate the 2021 impacts for each of these industries was multiplied by the appropriate growth factor for each industry/state pair to determine the 2024 direct impacts. Once the direct impact of the industry has been calculated, the impact of supplier firms, and the "Induced Impact" of the re-spending by employees of industry and supplier firms, is calculated using the IMPLAN model.<sup>14</sup>

The supplier, induced, and tax effects are calculated in the same manner as 2021, using the updated IMPLAN margins. In addition, the data are broken into Congressional Districts using a similar model as in 2021, using updated 2023 zip code and industry data from DataAxle.

<sup>&</sup>lt;sup>13</sup> *Quarterly Census of Employment and Wages*, Bureau of Labor Statistics, at: https://www.bls.gov/cew/. Data accessed December 23, 2024. Annual data for each year.

<sup>&</sup>lt;sup>14</sup> IMPLAN® model, 2022 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (2025), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078, www.IMPLAN.com.



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