



Missouri Target Industry Brief ENERGY SOLUTIONS

Energy Solutions Industry

The **Energy Solutions** Target Industry Group includes technologies that provide long-term and low-impact solutions to the energy demands of Missouri residents and businesses. Involved in meeting this challenge includes renewable energy companies and suppliers such as Abengoa Bioenergy, Wind Capital Group, Zoltek, VestFiber, and Emerson Electric. Missouri is home to an **Energy Solutions** industry group that employs 130,428 workers across 8,621 establishments. The **Energy Solutions** Target Industry represents 22 industries and 5.5 percent of total private sector employment.

Location quotient (LQ) compares the regional share of an industry to the national share such that a LQ over 1.0 indicates sectors of employment concentration. Industries with particularly high concentration are *HVAC/Commercial Refrigeration Equipment Manufacturing* (LQ 3.29), *Agriculture Chemical Manufacturing* (LQ 2.59), and *Other Electrical Equipment and Component Manufacturing* (LQ 2.08).

2017 Employment & Establishment Data Energy Solutions Target Industry Group

NAICS	Industry	2017 Establishments	2017 Employment	2017 Average Annual Wage	2017 Employment Location Quotient
	Total All Private Industry	196,379	2,367,217	\$47,810	
3112	Grain and oilseed milling	38	2,086	\$50,920	1.76
3251	Basic chemical manufacturing	55	3,417	\$67,887	1.19
3252	Resin, rubber, and artificial fibers manufacturing	20	696	\$65,325	0.39
3253	Agricultural chemical manufacturing	44	1,788	\$73,712	2.59
3261	Plastics product manufacturing	226	13,406	\$48,638	1.2
3272	Glass and glass product manufacturing	19	1,179	\$56,051	0.72
3315	Foundries	41	2,974	\$53,496	1.32
3323	Architectural and structural metals mfg.	242	8,711	\$46,012	1.21
3329	Other fabricated metal product mfg.	134	7,594	\$58,569	1.47
3332	Industrial machinery manufacturing	57	1,386	\$63,930	0.63
3334	Hvac and commercial refrigeration equipment	52	8,325	\$49,441	3.29
3336	Turbine and power transmission equipment mfg.	30	2,933	\$49,142	1.58
3344	Semiconductor and electronic component mfg.	52	6,221	\$78,375	0.89
3345	Electronic instrument mfg.	69	3,045	\$67,148	0.39
3353	Electrical equipment mfg.	59	3,887	\$62,568	1.46
3359	Other electrical equipment and component mfg.	60	5,472	\$50,317	2.08
4247	Petroleum merchant wholesalers	287	1,879	\$53,947	1.01
5413	Architectural and engineering services	2,230	23,011	\$85,834	0.83
5416	Management and technical consulting services	3,442	18,726	\$72,802	0.69
5417	Scientific research and development services	452	8,637	\$98,014	0.68
8112	Electronic equipment repair and maintenance	339	1,469	\$55,568	0.74
8113	Commercial machinery repair and maintenance	673	3,586	\$55,643	0.91
	Total Energy Solutions Industries	8,621	130,428	\$61,970	1.23

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2017 Annual Data

Energy Solutions Employment Trends

Employment Trends: 2012 - 2017

Employment in the **Energy Solutions** Target Industry Group grew an average 2.3 percent per year from 2012 to 2017— adding a total 13,708 jobs. The largest industries in this group are *Architectural and Engineering Services* with 23,011 jobs as of 2017, *Management and Technical Consulting Services* with 18,726 jobs and *Plastics Product Manufacturing* with 13,406 jobs.

The average annual wage in the **Energy Solutions** target industry group is over \$61,900 compared to the state's average annual private sector wage of \$47,800. The highest annual average wages within this industry group were in *Scientific Research and Development Services* industry (\$98,014); *Architectural and Structural Metals Manufacturing* (\$46,012) is more in line with state averages.

Thirteen **Energy Solutions** industries posted net employment gains. The largest gain was in *Management and Technical Consulting Services* that added 7,966 jobs; *Semiconductor and Electronic Component Manufacturing* gained 2,856 jobs, and *Architectural and Engineering Services* increasing by 2,582 jobs.

Nine **Energy Solutions** industries posted a net loss. The largest employment losses were in *Other Fabricated Metal Manufacturing*, which lost 2,252 jobs, and *Hvac and Commercial Refrigeration Equipment* which lost 1,221 jobs. *Scientific Research and Development Services* shows a loss of 1,394 jobs, largely due to a reclassification issue.

2012 - 2017 Employment Data Energy Solutions Target Industry Group

NAICS	Industry	2012 Employment	2013 Employment	2014 Employment	2015 Employment	2016 Employment	2017 Employment	2012 -2017 Employment Change
3112	Grain and oilseed milling	2,564	2,240	2,247	2,231	2,191	2,086	-478
3251	Basic chemical manufacturing	3,149	2,959	3,270	3,286	3,331	3,417	268
3252	Resin, rubber, and artificial fibers manufacturing	641	699	741	700	675	696	55
3253	Agricultural chemical manufacturing	1,693	1,708	1,716	1,659	1,717	1,788	95
3261	Plastics product manufacturing	11,496	11,646	11,762	12,479	13,047	13,406	1,910
3272	Glass and glass product manufacturing	920	1,115	1,109	1,185	1,209	1,179	259
3315	Foundries	2,681	2,858	2,958	3,090	3,096	2,974	293
3323	Architectural and structural metals mfg.	6,656	7,301	7,433	7,879	8,635	8,711	2,055
3329	Other fabricated metal product mfg.	9,846	10,230	7,681	7,331	7,384	7,594	-2,252
3332	Industrial machinery manufacturing	1,489	1,697	1,191	1,185	1,271	1,386	-103
3334	Hvac and commercial refrigeration equipment	9,546	8,521	8,653	8,508	8,323	8,325	-1,221
3336	Turbine and power transmission equipment mfg.	2,940	2,843	2,771	2,854	2,938	2,933	-7
3344	Semiconductor and electronic component mfg.	3,365	3,347	5,789	5,782	5,985	6,221	2,856
3345	Electronic instrument mfg.	1,942	3,103	3,076	3,120	2,955	3,045	1,103
3353	Electrical equipment mfg.	4,660	4,638	4,509	4,284	4,067	3,887	-773
3359	Other electrical equipment and component mfg.	5,557	5,387	5,134	5,337	5,439	5,472	-85
4247	Petroleum merchant wholesalers	1,861	1,874	1,923	1,930	1,961	1,879	18
5413	Architectural and engineering services	20,429	21,118	21,596	23,019	23,032	23,011	2,582
5416	Management and technical consulting services	10,760	11,626	12,432	15,297	17,063	18,726	7,966
5417	Scientific research and development services	10,031	6,742	7,183	7,944	8,479	8,637	-1,394
8112	Electronic equipment repair and maintenance	1,524	1,485	1,528	1,544	1,568	1,469	-55
8113	Commercial machinery repair and maintenance	2,970	2,918	3,017	3,070	3,651	3,586	616
Totals		116,720	116,055	117,719	123,714	128,017	130,428	13,708

Source: U. S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Annual Data

Energy Solutions Occupations

Energy Solutions Occupations

Occupations in the **Energy Solutions Industry** typically require some combination of training (i.e., education, experience, or on-the-job). The top employing occupations in this industry group that require long-term (Later) training include *Civil Engineers, General and Operations Managers, and Architects*. Occupations requiring moderate (Next) training include *First-Line Supervisors, Architectural and Civil Drafters* and *Bookkeeping, Accounting and Auditing Clerks*. Leading occupations requiring short-term (Now) training include *Team Assemblers, Electrical and Electronic Equipment Assemblers, and Secretaries and Administrative Assistants*.

Among these top occupations, persons employed as *General and Operational Managers* earned nearly \$129,300, followed by *Civil Engineers* (\$92,300) and *Electrical Engineers* (\$85,700).

2017 Top Occupations in Energy Solutions

Now Next Later	Occupation Code	Occupation Title	2017 Estimated Employment	2017 Average Wages
NOW	51-2098	Assemblers and fabricators, all other, including Team Assemblers	6,200	\$32,329
NOW	51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	5,160	\$31,065
NOW	51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	3,360	\$29,505
NOW	43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	3,070	\$34,951
NOW	51-4121	Welders, Cutters, Solderers, and Brazers	2,740	\$39,110
NEXT	51-1011	First-Line Supervisors of Production and Operating Workers	3,350	\$56,794
NEXT	17-3011	Architectural and Civil Drafters	1,720	\$50,624
NEXT	43-3031	Bookkeeping, Accounting, and Auditing Clerks	1,550	\$38,511
NEXT	49-9041	Industrial Machinery Mechanics	1,330	\$51,619
NEXT	51-4041	Machinists	1,210	\$43,577
LATER	17-2051	Civil Engineers	3,150	\$92,290
LATER	11-1021	General and Operations Managers	2,860	\$129,270
LATER	17-1011	Architects, Except Landscape and Naval	1,950	\$75,276
LATER	17-2071	Electrical Engineers	1,520	\$85,678
LATER	17-2112	Industrial Engineers	1,520	\$80,609

Source: Division of Occupational Employment Statistics
U.S. Bureau of Labor Statistics

MISSOURI ECONOMIC RESEARCH AND INFORMATION CENTER

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