



# regions' 13, 14, 15, & 16 green jobs

2014-2024

november 2016



## increased demand occupations

### region 13

Occupational Title	Employment <sup>[1]</sup>			\$ <sup>[2]</sup>		Career Preparation <sup>[3]</sup>			Top Skills <sup>[4]</sup> (L-R in order of significance)
	2014 Estimated	2024 Projected	Annual Growth Rate (%)	2016 Mean Wage	2016 Mean Salary	Educ	Work Exp	Job Training	
Industrial Machinery Mechanics	280	355	2.5	19.76	41,110	HS	N	L	T9 T1 T5 T11 T8
Cement Masons and Concrete Finishers	270	315	1.7	17.33	36,050	NE	N	M	B6 B2 SO1 B3 SY1
Operating Engineers and Other Construction Equipment Operators	370	420	1.4	21.65	45,039	HS	N	M	T4 T5 B2 B6 B9
Customer Service Representatives	550	610	1.1	12.75	26,512	HS	N	S	B2 B9 SO5 SO4 B7
Laborers and Freight, Stock, and Material Movers, Hand Carpenters	2,290	2,500	0.9	13.56	28,211	NE	N	S	B2 B3 T5 SO1 B6 B7 B9
Welders, Cutters, Solderers, and Brazers	400	435	0.9	21.24	44,184	HS	N	A	B3 T2 T5 B2 SO1 SY1 B5 B6 T8 R4
Industrial Truck and Tractor Operators	415	445	0.7	16.23	33,753	HS	N	M	B3 B2 B6 SY1 T4 T5
Team Assemblers	370	390	0.7	15.83	32,923	NE	N	S	T4 T5 T8 B9 R4
First-Line Supervisors of Production and Operating Workers	680	725	0.7	12.15	25,273	HS	N	M	SO1 B2 B3 B9 B6 B7
	380	400	0.5	25.50	53,043	HS	< 5	N	B3 R4 B2 B9 SO1 R3 B9

### region 14

Team Assemblers	550	595	0.8	N.A.	N.A.	HS	N	M	SO1 B2 B3 B9 B6 B7
Laborers & Freight, Stock, & Material Movers, Hand	485	510	0.5	13.20	27,456	NE	N	S	B2 B3 T5 SO1 B6 B7 B9

### region 15

Industrial Machinery Mechanics	140	180	2.9	22.90	47,635	HS	N	L	T1 T9 T5 T11 T4 T8
Laborers & Freight, Stock, & Material Movers, Hand	880	965	1.0	13.55	28,175	NE	N	S	B2 B3 T5 SO1 B6 B7 B9
Customer Service Reps	375	405	0.8	14.44	30,030	HS	N	S	B2 B9 SO5 SO4 B7
Industrial Truck & Tractor Operators	460	490	0.7	16.48	34,279	NE	N	S	T4 T5 SO1 T1 B2 B3 B6
Welders, Cutters, Solderers, & Brazers	455	485	0.5	14.60	30,361	HS	N	M	B3 B2 B6 SY1 T4 T5
First-Line Supervisors of Production & Operating Wkrs	495	515	0.4	24.47	50,892	HS	< 5	N	B3 R4 B2 B9 SO1 R3 B9
Team Assemblers	665	680	0.2	16.20	33,688	HS	N	M	SO1 B2 B3 B9 B6 B7

### region 16

Industrial Machinery Mechanics	395	490	2.5	23.39	48,650	HS	N	L	T9 T1 T5 T11 T8
Carpenters	335	375	1.2	N.A.	N.A.	HS	N	A	B3 T2 T5 B2 SO1 SY1 B5 B6 T8 R4
Laborers & Freight, Stock, & Material Movers, Hand	1,415	1,530	0.8	13.36	27,788	NE	N	S	B2 B3 T5 SO1 B6 B7 B9
Welders, Cutters, Solderers, & Brazers	370	405	0.8	15.48	32,201	HS	N	M	B3 B2 B6 SY1 T4 T5
Industrial Truck & Tractor Operators	270	290	0.7	N.A.	N.A.	NE	N	S	T4 T5 SO1 T1 B2 B3 B6
Customer Service Reps	415	445	0.7	15.16	31,536	HS	N	S	B2 B9 SO5 SO4 B7
Team Assemblers	495	520	0.6	13.06	27,156	HS	N	M	SO1 B2 B3 B9 B6 B7
First-Line Supervisors of Production & Operating Wkrs	515	535	0.4	24.29	50,517	HS	< 5	N	B3 R4 B2 B9 SO1 R3 B9

# enhanced skills occupations region 13

Occupational Title	Employment <sup>[1]</sup>			\$ <sup>[2]</sup>		Career Preparation <sup>[3]</sup>			Top Skills <sup>[4]</sup>												
	2014 Estimated	2024 Projected	Annual Growth Rate (%)	2016 Mean Wage	2016 Mean Salary	Educ	Work Exp	Job Training	(L-R in order of significance)												
Bus and Truck Mechanics and Diesel Engine Specialists	305	365	2.0	16.21	33,713	HS	N	L	T9	T11	T4	T5	B3	T1	T8						
Construction Laborers	535	640	1.9	15.44	32,126	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6						
Heavy and Tractor-Trailer Truck Drivers	1,830	2,095	1.4	18.95	39,407	PS	N	S	T4	T5	B6	B2	B3	T8							
Maintenance and Repair Workers, General	715	790	1.0	16.69	34,709	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
General and Operations Managers	785	865	1.0	34.17	71,065	BA	> 5	N	B2	B7	B9	B3	B6								
Inspectors, Testers, Sorters, Samplers, and Weighers	250	270	0.8	18.19	37,829	HS	N	M	B3	B2	B9	B7	B6	T5							
Automotive Service Technicians and Mechanics	505	540	0.7	21.42	44,559	PS	N	S	T1	T9	T11	T2	T8								

## region 14

Heavy & Tractor-Trailer Truck Drivers	790	880	1.1	15.21	31,645	PS	N	S	T4	T5	B6	B2	B3	T8							
General & Operations Managers	305	325	0.7	33.61	69,909	BA	> 5	N	B1	SO1	B6	SO6	B9								
Maintenance & Repair Workers, General	315	335	0.6	17.20	35,777	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
Farmers, Ranchers, & Other Agricultural Managers	2,755	2,700	-0.2	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

## region 15

Machinists	325	395	2.2	16.08	33,449	HS	N	L	T5	T8	T4	T11	B3	B6							
Heavy & Tractor-Trailer Truck Drivers	2,130	2,445	1.5	16.54	34,399	PS	N	S	T4	T5	B6	B2	B3	T8							
Plumbers, Pipefitters, & Steamfitters	300	340	1.3	N.A.	N.A.	HS	N	A	SO1	R4	B3	T5	B2	SY1	B6	B9					
General & Operations Managers	690	755	0.9	50.02	104,043	BA	> 5	N	B2	B7	B9	B3	B6								
Maintenance & Repair Wkrs, General	785	855	0.9	18.03	37,494	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
Automotive Service Technicians & Mechanics	305	330	0.7	13.70	28,505	PS	N	S	T1	T9	T11	T2	T8								
Farmers, Ranchers, & Other Agricultural Managers	4,855	4,820	-0.1	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

## region 16

Construction Laborers	470	560	2.0	15.09	31,377	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6						
Heavy & Tractor-Trailer Truck Drivers	1,610	1,845	1.5	17.76	36,944	PS	N	S	T4	T5	B6	B2	B3	T8							
Automotive Service Technicians & Mechanics	305	335	0.8	17.32	36,033	PS	N	S	T1	T9	T11	T2	T8								
General & Operations Managers	440	475	0.8	41.51	86,333	BA	> 5	N	B2	B7	B9	B3	B6								
Maintenance & Repair Wkrs, General	740	790	0.7	18.33	38,133	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
Inspectors, Testers, Sorters, Samplers, & Weighers	355	370	0.4	16.31	33,923	HS	N	M	B3	B2	B9	B7	B6	T5							
Farmers, Ranchers, & Other Agricultural Managers	3,210	3,255	0.1	50.91	105,894	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

### Legend/Methodology/Selection Criteria:

The basis for **Regional Green Jobs** comes from occupational effects orientative research (or the "greening" of occupations) conducted by O\*NET, a primary occupational data source of the Employment and Training Administration, U.S. Department of Labor. As defined by O\*NET, the "greening" of occupations "refers to the extent to which green economy activities and technologies increase the demand for existing occupations, shape the work and worker requirements needed for occupational performance, or generate unique work and worker requirements." This report focuses on growing occupations from two O\*NET-identified occupational categories describing the effects of activities and technologies on occupational performance: **Green Increased Demand Occupations** (occupations impacted by green economy activities and technologies causing an increase in demand but no significant change to the occupation's tasks) and **Green Enhanced Skills Occupations** (occupations impacted by green economy activities and technologies with significant changes to the work and worker requirements but not necessarily an increase in demand). Residual or undefined occupations were not included in this report which may include "new and emerging" green jobs not representative enough in the general economy to warrant a separate and distinct classification of their own (Examples may include Geothermal Technicians, Recycling Coordinators, Sustainability Specialists, and Wind Turbine Service Technicians.). Additional information on "green occupations" can be viewed on the O\*NET OnLine website at <http://online.onetcenter.org/>.

**[1] Employment** includes: **Estimated** = Estimation of labor force by occupation (rounded); **Projected** = Projection of future labor force by occupation (rounded); and **Annual Growth Rate (%)** = Ten year growth rate (not shown) divided by ten. **[2] Mean (Average) Wage & Salary (\$)** = dividing the estimated total pay for an occupation by its weighted employment. Pay provided in wage (hourly) and salary (annual) formats; Missing pay data may be derived from calculation or proration of reported wage/salary data if available (i.e., legislator pay based on 4-months service, education and coaching pay based on 12-months service); Occupations with limited or no compensation data (which inhibits either wage or salary calculated derivations) are subsequently omitted from any methodological calculations. **[3] Career Preparation** determined by the U.S. Department of Labor's Bureau of Labor Statistics (BLS). Alternative employment pathways may exist as well as differing educational, training, or licensing requirements per state. Iowa requirements are used in this publication when available. Career Preparation areas/levels include: **Education** (typical education level needed to enter an occupation): DP = Doctoral or Professional degree; MA = Master's degree; BA = Bachelor's degree; AS = Associate's degree; PS = Postsecondary non-degree award; SC = Some college, no degree; HS = High school diploma or equivalent; < HS = Less than high school; **Work Experience** (typical work experience level commonly considered necessary for entry into an occupation, or substitutable for formal types of training): > 5 = 5 years or more; < 5 = Less than 5 years; N = None; and **Job Training** (typical on-the-job training level needed to attain occupational competency): I = Internship/residency; A = Apprenticeship; L = Long-term on-the-job training; M = Moderate-term on-the-job training; S = Short-term on-the-job training; None = N. **[4] Top Skills** refers to the the top five (or more if tied) most important skills for a particular occupation as identified by sampled workers' questionnaire responses conducted by occupational analysts of the U.S. Department of Labor's Occupational Information Network (O\*NET). These include: **Basic Skills**: B1 = Active Learning; B2 = Active Listening; B3 = Critical Thinking; B4 = Learning Strategies; B5 = Mathematics; B6 = Monitoring; B7 = Reading Comprehension; B8 = Science; B9 = Speaking; B10 = Writing; **Complex Problem Solving Skills**: C1 = Complex Problem Solving; **Resource Management Skills**: R1 = Management of Financial Resources; R2 = Management of Material Resources; R3 = Management of Personnel Resources; R4 = Time Management; **Social Skills**: SO1 = Coordination; SO2 = Instructing; SO3 = Negotiation; SO4 = Persuasion; SO5 = Service Orientation; SO6 = Social Perceptiveness; **Systems Skills**: SY1 = Judgment and Decision Making; SY2 = Systems Analysis; SY3 = Systems Evaluation; and **Technical Skills**: T1 = Equipment Maintenance; T2 = Equipment Selection; T3 = Installation; T4 = Operation and Control; T5 = Operation Monitoring; T6 = Operations Analysis; T7 = Programming; T8 = Quality Control Analysis; T9 = Repairing; T10 = Technology Design; T11 = Troubleshooting. N.A. = Not Available.

### Sources:

**Education/Work Experience/Job Training:** Bureau of Labor Statistics, U.S. Department of Labor; **Employment:** 2014-2024 Occupational Projections estimates based on 2014 annual industry employment data and 2015 2<sup>nd</sup> quarter occupational staffing pattern data, Labor Market and Workforce Information Division, Iowa Workforce Development; **Skills:** Occupational Information Network (O\*NET), Employment and Training Administration, U.S. Department of Labor; **Wages:** 2016 Iowa Wage Survey estimates (based on 2015 2<sup>nd</sup> quarter occupational wage data updated to 2015 2<sup>nd</sup> quarter using Employment Cost Index), Labor Market and Workforce Information Division, Iowa Workforce Development. This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration; **Logo:** Developed by Gary Anderson, nontrademarked recycled symbol used to bring awareness to sustainable and/or "green" economic activities. This workforce product was funded by a grant awarded by the U.S. Department of Labor. The product was created by the recipient and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This product is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner. This publication was produced by the Labor Market and Workforce Information Division of Iowa Workforce Development. Revisions and/or corrections made when necessary. Inquiries may be directed to Brent Paulson at 515.281.3439 or Brent.Paulson@iwd.iowa.gov. Visit [www.iowalmi.gov](http://www.iowalmi.gov) to obtain the latest workforce data and trends including this document. Published 11/2016.