



# regions' 5, 6, 7, & 8 green jobs

2014-2024

november 2016



## increased demand occupations

### region 5

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	
Customer Service Representatives	350	375	0.7	14.19	29,518	HS	N	S	B2 B9 SO5 SO4 B7
Laborers and Freight, Stock, and Material Movers, Hand	730	770	0.5	13.47	28,025	NE	N	S	B2 B3 T5 SO1 B6 B7 B9
Welders, Cutters, Solderers, and Brazers	315	325	0.2	17.73	36,878	HS	N	M	B3 T4 B6 B7 B2 SY1 T5 B9

### region 6

Customer Service Representatives	350	375	0.7	14.19	29,518	HS	N	S	B2 B9 SO5 SO4 B7
Laborers and Freight, Stock, and Material Movers, Hand	730	770	0.5	13.47	28,025	NE	N	S	B2 B3 T5 SO1 B6 B7 B9
Welders, Cutters, Solderers, and Brazers	315	325	0.2	17.73	36,878	HS	N	M	B3 T4 B6 B7 B2 SY1 T5 B9

### region 7

Industrial Machinery Mechanics	555	690	2.4	22.00	45,769	HS	N	L	T9 T1 T5 T11 T8
Computer-Controlled Machine Tool Operators, Metal and Plastic	315	385	2.2	17.91	37,251	HS	N	M	B6 T5 B3 T8 T4
Electricians	435	500	1.6	21.23	44,155	HS	N	A	T11 T9 B2 B3 T5 T8
Laborers and Freight, Stock, and Material Movers, Hand	2,040	2,295	1.3	14.32	29,776	NE	N	S	B2 B3 T5 SO1 B6 B7 B9
Customer Service Representatives	1,395	1,530	1.0	15.48	32,199	HS	N	S	B2 B9 SO5 SO4 B7
Operating Engineers and Other Construction Equipment Operators	550	605	1.0	23.68	49,261	HS	N	M	T4 T5 B2 B6 B9
Carpenters	575	635	1.0	17.20	35,778	HS	N	A	B3 T2 T5 B2 SO1 SY1 B5 B6 T8 R4
First-Line Supervisors of Mechanics, Installers, and Repairers	290	315	0.9	29.96	62,319	HS	< 5	N	R3 B6 SO1 B3 R4
Production, Planning, and Expediting Clerks	245	260	0.6	23.04	47,932	HS	N	M	B7 B2 B3 B9 R4
Industrial Truck and Tractor Operators	835	875	0.5	15.38	31,988	NE	N	S	T4 T5 SO1 T1 B2 B3 B6
Welders, Cutters, Solderers, and Brazers	875	905	0.3	18.47	38,411	HS	N	M	B3 B2 B6 SY1 T4 T5
First-Line Supervisors of Production and Operating Workers	810	820	0.2	29.75	61,889	HS	< 5	N	B3 R4 B2 B9 SO1 R3 B9
Team Assemblers	1,765	1,695	-0.4	17.83	37,089	HS	N	M	SO1 B2 B3 B9 B6 B7

### region 8

Industrial Machinery Mechanics	195	240	2.3	20.68	43,019	HS	N	L	T9 T1 T5 T11 T8
Customer Service Representatives	340	375	0.9	13.77	28,649	HS	N	S	B2 B9 SO5 SO4 B7
Welders, Cutters, Solderers, & Brazers	210	225	0.7	16.33	33,965	HS	N	M	B3 T4 B6 B7 B2 SY1 T5 B9
Laborers & Freight, Stock, & Material Movers, Hand	1,050	1,095	0.4	14.28	29,699	NE	N	S	B2 B3 T5 SO1 B6 B7 B9

# enhanced skills occupations region 5

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)											
Construction Laborers	380	440	1.7	14.84	30,877	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6					
Heavy & Tractor-Trailer Truck Drivers	1,670	1,860	1.1	18.32	38,108	PS	N	S	T4	T5	B6	B2	B3	T8						
Machinists	295	320	0.8	22.43	46,648	HS	N	L	T5	B3	T4	B2	SO1	B6	B7					
Maintenance & Repair Wkrs, General	440	465	0.7	N.A.	N.A.	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4	
General & Operations Managers	475	505	0.6	35.65	74,146	BA	> 5	N	B2	B7	B9	B3	B6							
Automotive Service Technicians & Mechanics	295	310	0.5	20.56	42,772	PS	N	S	T1	T9	T11	T2	T8							

## region 6

Machinists	215	250	1.6	19.51	40,584	HS	N	L	T5	T8	T4	T11	B3	B6						
Construction Laborers	355	405	1.4	21.60	44,925	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6					
Inspectors, Testers, Sorters, Samplers, and Weigher	275	295	0.9	17.93	37,300	HS	N	M	B3	B2	B9	B7	B6	T5						
Maintenance and Repair Workers, General	465	505	0.9	16.37	34,048	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4	
Automotive Service Technicians and Mechanics	240	255	0.8	18.13	37,701	PS	N	S	T1	T9	T11	T2	T8							
Heavy and Tractor-Trailer Truck Drivers	1,100	1,190	0.8	17.43	36,263	PS	N	S	T4	T5	B6	B2	B3	T8						
General and Operations Managers	565	610	0.8	38.38	79,823	BA	> 5	N	B2	B7	B9	B3	B6							
Farmers, Ranchers, and Other Agricultural Manager	3,100	3,095	0.0	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4						

## region 7

Construction Laborers	635	745	1.7	16.18	33,644	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6					
Heavy and Tractor-Trailer Truck Drivers	2,090	2,315	1.1	19.76	41,107	PS	N	S	T4	T5	B6	B2	B3	T8						
Plumbers, Pipefitters, and Steamfitters	430	475	1.0	19.39	40,322	HS	N	A	SO1	R4	B3	T5	B2	SY1	B6	B9				
Automotive Service Technicians and Mechanics	665	725	0.9	17.36	36,104	PS	N	S	T1	T9	T11	T2	T8							
Machinists	500	545	0.9	19.86	41,312	HS	N	L	T5	T8	T4	T11	B3	B6						
General and Operations Managers	1,080	1,165	0.7	39.35	81,848	BA	> 5	N	B2	B7	B9	B3	B6							
Maintenance and Repair Workers, General	1,210	1,280	0.6	17.90	37,222	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4	
Inspectors, Testers, Sorters, Samplers, and Weigher	745	775	0.4	N.A.	N.A.	HS	N	M	B3	B2	B9	B7	B6	T5						
Farmers, Ranchers, and Other Agricultural Manager	5,590	5,685	0.2	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4						
Shipping, Receiving, and Traffic Clerks	470	470	0.0	16.06	33,411	HS	N	S	B7	B2	SY1	B6	R4							
Mechanical Engineers	460	460	-0.1	34.78	72,349	BA	N	N	C1	B3	B2	SY1	B5	B7						

## region 8

Construction Laborers	255	295	1.6	14.13	29,395	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6					
General & Operations Managers	430	470	0.9	38.62	80,339	BA	> 5	N	B2	B7	B9	B3	B6							
Maintenance & Repair Workers, General	400	440	0.9	17.05	35,458	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4	
Heavy & Tractor-Trailer Truck Drivers	1,280	1,365	0.7	18.73	38,956	PS	N	S	T4	T5	B6	B2	B3	T8						
Farmers, Ranchers, & Other Agricultural Managers	3,075	3,035	-0.1	N.A.	N.A.	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.