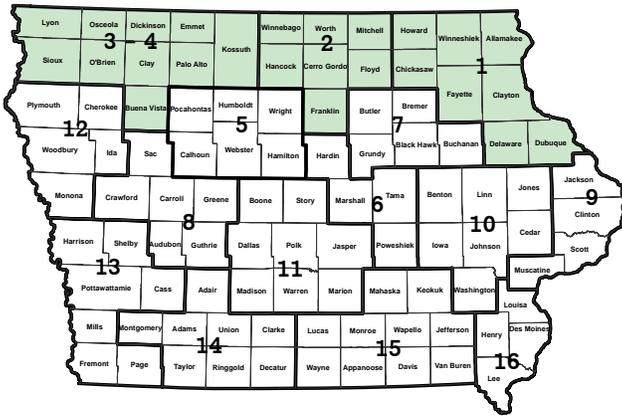


regions' 1, 2, & 3-4 green jobs

2014-2024

november 2016



increased demand occupations

region 1

Occupational Title	Employment ^[1]			§ ^[2]		Career Preparation ^[3]			Top Skills ^[4] (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	525	660	2.6	21.52	44,756	HS	N	L	T9	T1	T5	T11	T8	
Software Developers, Systems Software	460	570	2.4	41.83	87,008	BA	N	N	B3	B2	T7	B7	C1	
Computer-Controlled Machine Tool Operators, Metal & Plastic	820	990	2.1	17.09	35,551	HS	N	M	B6	T5	B3	T8	T4	
Electricians	450	525	1.8	23.15	48,153	HS	N	A	T11	T9	B2	B3	T5	T8
Customer Service Reps	1,445	1,685	1.7	15.17	31,548	HS	N	S	B2	B9	SO5	SO4	B7	
Production, Planning, & Expediting Clerks	255	290	1.4	19.79	41,167	HS	N	M	B7	B2	B3	B9	R4	
Cement Masons & Concrete Finishers	300	340	1.3	16.55	34,423	NE	N	M	B6	B2	SO1	B3	SY1	
Carpenters	730	815	1.2	19.70	40,976	HS	N	A	B3	T2	T5	B2	SO1	SY1 B5 B6 T8 R4
Electrical Power-Line Installers & Repairers	135	155	1.1	29.39	61,124	HS	N	L	B2	B6	B3	T5	T11	
First-Line Supervisors of Mechanics, Installers, & Repairers	320	355	1.1	26.25	54,607	HS	< 5	N	R3	B6	SO1	B3	R4	
Operating Engineers & Other Construction Equipment Operators	700	770	1.0	24.58	51,124	HS	N	M	T4	T5	B2	B6	B9	
Industrial Truck & Tractor Operators	530	580	0.9	15.07	31,356	NE	N	S	T4	T5	SO1	T1	B2 B3 B6	
Laborers & Freight, Stock, & Material Movers, Hand	1,745	1,890	0.8	14.27	29,691	NE	N	S	B2	B3	T5	SO1	B6 B7 B9	
Welders, Cutters, Solderers, & Brazers	715	765	0.7	16.46	34,245	HS	N	M	B3	B2	B6	SY1	T4 T5	
Industrial Engineers	245	255	0.6	33.54	69,753	BA	N	N	B7	B2	C1	B3	B10	
First-Line Supervisors of Production & Operating Wkrs	710	745	0.6	22.75	47,328	HS	< 5	N	B3	R4	B2	B9	SO1 R3 B9	
Team Assemblers	2,255	2,355	0.4	14.97	31,135	HS	N	M	SO1	B2	B3	B9	B6 B7	
Electrical & Electronic Equipment Assemblers	560	575	0.3	18.94	39,403	HS	N	M	B7	SY1	B6	T5	B2	SO1 B3

region 2

Industrial Machinery Mechanics	220	260	1.8	22.35	46,482	HS	N	L	T9	T1	T5	T11	T8	
Mixing & Blending Machine Setters, Operators, & Tenders	270	315	1.7	17.85	37,136	HS	N	M	T5	T4	B6	B7	B2 T8	
Team Assemblers	1,940	2,080	0.7	15.08	31,360	HS	N	M	SO1	B2	B3	B9	B6 B7	
Welders, Cutters, Solderers, & Brazers	910	975	0.7	17.13	35,624	HS	N	M	B3	B2	B6	SY1	T4 T5	
Laborers & Freight, Stock, & Material Movers, Hand	1,180	1,240	0.5	14.35	29,850	NE	N	S	B2	B3	T5	SO1	B6 B7 B9	
Customer Service Reps	610	640	0.5	15.32	31,866	HS	N	S	B2	B9	SO5	SO4	B7	
First-Line Supervisors of Production & Operating Workers	425	445	0.5	24.44	50,843	HS	< 5	N	B3	R4	B2	B9	SO1 R3 B9	

region 3

Wind Turbine Service Technicians	100	235	13.5	N.A.	N.A.	SC	N	L	T9	T11	T1	B3	T5	
Production Wkrs, All Other	500	535	0.7	15.68	32,604	HS	N	M						
Business Operations Specialists, All Other	805	805	0.0	19.66	40,896	BA	N	N						
Managers, All Other	1,005	970	-0.3	29.08	60,485	BA	< 5	N						

enhanced skills occupations region 1

Occupational Title	Employment ^[1]			\$ ^[2]		Career Preparation ^[3]			Top Skills ^[4]								
	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 & Truck Mechanics & Diesel Engine Specialists	290	345	1.9	20.18	41,974	HS	N	L	T9	T11	T1	T4	T5				
Machinists	470	560	1.8	18.29	38,049	HS	N	L	T5	T8	T4	T11	B3	B6			
Construction Laborers	900	1,060	1.8	15.98	33,247	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6		
Automotive Service Technicians & Mechanics	655	730	1.1	17.65	36,707	PS	N	S	T1	T9	T11	T2	T8				
General & Operations Managers	1,555	1,725	1.1	35.88	74,633	BA	> 5	N	B2	B7	B9	B3	B6				
Sales Reps, Wholesale & Mfg, Technical & Scientific Products	290	320	1.0	31.85	66,252	BA	N	M	SO4	B9	B2	SO3	SO6				
Heavy & Tractor-Trailer Truck Drivers	2,920	3,215	1.0	17.84	37,117	PS	N	S	T4	T5	B6	B2	B3	T8			
Maintenance & Repair Wkrs, General	1,150	1,265	1.0	16.12	33,533	HS	N	L	T1	T9	T11	B3	T2	B6	T4	T5	
Mechanical Engineers	260	275	0.6	35.82	74,509	BA	N	N	B2	B3	B5	B7	B10				
Inspectors, Testers, Sorters, Samplers, & Weighers	410	430	0.5	16.51	34,344	HS	N	M	B3	B2	B9	B7	B6	T5			
Shipping, Receiving, & Traffic Clerks	335	340	0.1	15.45	32,146	HS	N	S	B7	B2	SY1	B6	R4				
Farmers, Ranchers, & Other Agricultural Managers	7,245	7,215	0.0	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4			

region 2

Construction Laborers	645	750	1.6	15.42	32,071	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6		
Maintenance & Repair Workers, General	495	545	1.0	17.31	35,995	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8
General & Operations Managers	630	685	0.9	57.89	120,411	BA	> 5	N	B2	B7	B9	B3	B6				
Heavy & Tractor-Trailer Truck Drivers	1,450	1,565	0.8	18.45	38,384	PS	N	S	T4	T5	B6	B2	B3	T8			
Automotive Service Technicians & Mechanics	380	410	0.8	16.89	35,125	PS	N	S	T1	T9	T11	T2	T8				
Farmers, Ranchers, & Other Agricultural Managers	4,155	4,140	0.0	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4			

region 3

Construction Laborers	840	985	1.7	15.10	31,401	NE	N	S	B9	SO1	B2	B3	T4	T5	SO6		
Machinists	580	680	1.7	16.76	34,851	HS	N	L	T5	T8	T4	T11	B3	B6			
Heavy & Tractor-Trailer Truck Drivers	2,585	2,870	1.1	18.36	38,183	PS	N	S	T4	T5	B6	B2	B3	T8			
Automotive Service Technicians & Mechanics	570	625	1.0	18.41	38,285	PS	N	S	T1	T9	T11	T2	T8				
General & Operations Managers	1,350	1,465	0.9	36.81	76,574	BA	> 5	N	B2	B7	B9	B3	B6				
Maintenance & Repair Wkrs, General	790	840	0.6	17.32	36,024	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8
Inspectors, Testers, Sorters, Samplers, & Weighers	325	335	0.5	17.22	35,809	HS	N	M	B3	B2	B9	B7	B6	T5			
Farmers, Ranchers, & Other Agricultural Managers	6,300	6,230	-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 2nd 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 2nd quarter occupational wage data updated to 2015 2nd 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 to obtain the latest workforce data and trends including this document. Published 11/2016.