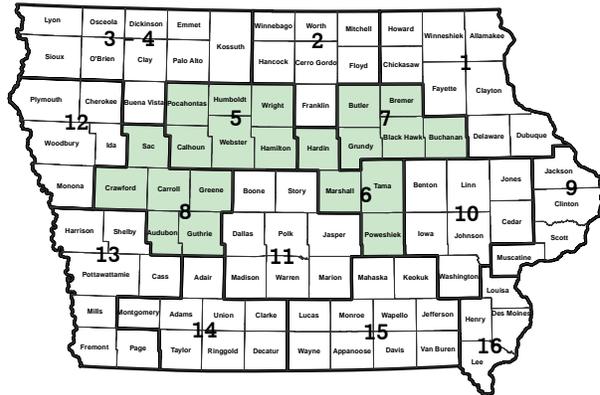


REGIONS 5, 6, 7, 8

WORKFORCE DEVELOPMENT

GREEN JOBS



INCREASED DEMAND OCCUPATIONS

REGION 5

Occupational Title	Employment ⁽¹⁾			\$ ⁽²⁾		Career Preparation ⁽³⁾			Top Skills ⁽⁴⁾ (L-R in order of significance)									
	2012 Est	2022 Proj	Annual Growth Rate (%)	2014 Mean Wage	2014 Mean Salary	Educ	Work Exp	Job Training										
Carpenters	280	365	3.0	19.09	39,702	HS	N	A	B3	T2	T5	B2	SO1	SY1	B5	B6	T8	R4
Industrial Machinery Mechanics	340	425	2.5	20.55	42,746	HS	N	L	T9	T1	T5	T11	T8					
Electricians	385	460	1.9	19.42	40,396	HS	N	A	T11	T9	B2	B3	T5	T8				
Mixing & Blending Machine Setters, Operators, & Tenders	255	295	1.6	19.79	41,165	HS	N	M	T5	T4	B6	B7	B2	T8				
Team Assemblers	420	470	1.2	14.23	29,599	HS	N	M	SO1	B2	B3	B9	B6	B7				
Customer Service Representatives	255	275	0.8	15.79	32,838	HS	N	S	B2	B9	SO5	SO4	B7					
Welders, Cutters, Solderers, & Brazers	230	245	0.7	16.58	34,481	HS	N	M	B3	B2	B6	SY1	T4	T5				

REGION 6

Industrial Machinery Mechanics	160	205	2.8	17.18	35,725	HS	N	L	T9	T1	T5	T11	T8					
Carpenters	265	330	2.5	16.03	33,349	HS	N	A	B3	T2	T5	B2	SO1	SY1	B5	B6	T8	R4
Team Assemblers	710	840	1.8	14.26	29,657	HS	N	M	SO1	B2	B3	B9	B6	B7				
Electricians	230	265	1.5	24.43	50,817	HS	N	A	T11	T9	B2	B3	T5	T8				
Operating Engineers & Other Construction Equipment Operators	215	250	1.4	20.39	42,413	HS	N	M	T4	T5	B2	B6	B9					
Laborers & Freight, Stock, & Material Movers, Hand	735	815	1.1	13.01	27,068	< HS	N	S	B2	B3	T5	SO1	B6	B7	B9			
Customer Service Representatives	335	370	1.0	13.67	28,441	HS	N	S	B2	B9	SO5	SO4	B7					

REGION 7

Carpenters	640	805	2.6	16.40	34,115	HS	N	A	B3	T2	T5	B2	SO1	SY1	B5	B6	T8	R4
Cement Masons & Concrete Finishers	260	330	2.5	16.53	34,374	< HS	N	M	B6	B2	SO1	B3	SY1					
Industrial Machinery Mechanics	555	690	2.4	22.02	45,794	HS	N	L	T9	T1	T5	T11	T8					
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	235	285	2.1	20.29	42,201	PS	N	L	T3	T11	T9	T1	T5					
Laborers & Freight, Stock, & Material Movers, Hand	2,085	2,475	1.9	13.49	28,065	< HS	N	S	B2	B3	T5	SO1	B6	B7	B9			
Operating Engineers & Other Construction Equipment Operators	575	675	1.7	23.61	49,115	HS	N	M	T4	T5	B2	B6	B9					
Computer-Controlled Machine Tool Operators, Metal & Plastic	315	365	1.6	18.26	37,981	HS	N	M	B6	T5	B3	T8	T4					
Customer Service Representatives	1,245	1,435	1.5	14.37	29,880	HS	N	S	B2	B9	SO5	SO4	B7					
Electricians	375	425	1.3	21.07	43,831	HS	N	A	T11	T9	B2	B3	T5	T8				
Production, Planning, & Expediting Clerks	240	260	0.8	19.23	40,006	HS	N	M	B7	B2	B3	B9	R4					
First-Line Supervisors of Mechanics, Installers, & Repairers	290	310	0.7	28.38	59,033	HS	< 5	N	R3	B6	SO1	B3	R4					
Welders, Cutters, Solderers, & Brazers	910	955	0.5	17.46	36,321	HS	N	M	B3	B2	B6	SY1	T4	T5				
First-Line Supervisors of Production & Operating Workers	750	775	0.4	24.39	50,737	PS	< 5	N	B3	R4	B2	B9	SO1	R3	B9			
Team Assemblers	1,460	1,505	0.3	19.47	40,506	HS	N	M	SO1	B2	B3	B9	B6	B7				
Structural Metal Fabricators & Fitters	200	200	0.3	N.A.	N.A.	HS	N	M	B2	B3	B9	B6	B7	SO6				
Industrial Truck & Tractor Operators	905	850	-0.6	15.52	32,287	< HS	N	S	T4	T5	SO1	T1	B2	B3	B6			

REGION 8

Industrial Machinery Mechanics	220	275	2.5	17.90	37,222	HS	N	L	T9	T1	T5	T11	T8					
Carpenters	285	350	2.3	14.82	30,818	HS	N	A	B3	T2	T5	B2	SO1	SY1	B5	B6	T8	R4
Team Assemblers	520	595	1.3	13.56	28,200	HS	N	M	SO1	B2	B3	B9	B6	B7				
Customer Service Representatives	385	425	1.0	13.91	28,940	HS	N	S	B2	B9	SO5	SO4	B7					
Laborers & Freight, Stock, & Material Movers, Hand	1,110	1,180	0.6	12.40	25,791	< HS	N	S	B2	B3	T5	SO1	B6	B7	B9			

ENHANCED SKILLS OCCUPATIONS

REGION 5

Occupational Title	Employment ^[1]			\$ ^[2]		Career Preparation ^[3]			Top Skills ^[4]												
	2012 Est	2022 Proj	Annual Growth Rate (%)	2014 Mean Wage	2014 Mean Salary	Educ	Work Exp	Job Training	(L-R in order of significance)												
Construction Laborers	375	470	2.5	13.31	27,684	< HS	N	S	B9	SO1	B2	B3	T4	T5	SO6						
Heavy & Tractor-Trailer Truck Drivers	1,480	1,735	1.7	22.39	46,569	PS	N	S	T4	T5	B6	B2	B3	T8							
Maintenance & Repair Workers, General	395	455	1.5	16.29	33,888	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
General & Operations Managers	375	415	1.1	36.40	75,705	BA	< 5	N	B2	B7	B9	B3	B6								
Automotive Service Technicians & Mechanics	415	435	0.5	17.89	37,202	HS	N	L	T1	T9	T11	T2	T8								
Farmers, Ranchers, & Other Agricultural Managers	3,535	3,250	-0.8	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

REGION 6

Construction Laborers	325	375	1.7	14.91	31,022	< HS	N	S	B9	SO1	B2	B3	T4	T5	SO6						
Heavy & Tractor-Trailer Truck Drivers	965	1,115	1.6	15.19	31,595	PS	N	S	T4	T5	B6	B2	B3	T8							
Machinists	220	250	1.4	N.A.	N.A.	HS	N	L	T5	T8	T4	T11	B3	B6							
General & Operations Managers	540	590	0.9	38.51	80,111	BA	< 5	N	B2	B7	B9	B3	B6								
Maintenance & Repair Workers, General	615	660	0.7	17.19	35,749	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
Shipping, Receiving, & Traffic Clerks	310	330	0.5	16.17	33,637	HS	N	S	B7	B2	SY1	B6	R4								
Inspectors, Testers, Sorters, Samplers, & Weighers	345	340	-0.1	14.41	29,964	HS	N	M	B3	B2	B9	B7	B6	T5							
Farmers, Ranchers, & Other Agricultural Managers	3,110	2,820	-0.9	56.70	117,937	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

REGION 7

Construction Laborers	885	1,090	2.3	14.96	31,112	< HS	N	S	B9	SO1	B2	B3	T4	T5	SO6						
Heating, Air Conditioning, & Refrigeration Mechanics & I	235	285	2.1	20.29	42,201	PS	N	L	T3	T11	T9	T1	T5								
Plumbers, Pipefitters, & Steamfitters	465	560	2.0	19.12	39,775	HS	N	A	SO1	R4	B3	T5	B2	SY1	B6	B9					
Construction Managers	225	265	1.8	37.33	77,637	BA	N	M	R4	B2	B3	R3	B9								
Heavy & Tractor-Trailer Truck Drivers	2,150	2,510	1.7	18.30	38,071	PS	N	S	T4	T5	B6	B2	B3	T8							
General & Operations Managers	1,030	1,150	1.2	43.48	90,445	BA	< 5	N	B2	B7	B9	B3	B6								
Bus & Truck Mechanics & Diesel Engine Specialists	225	250	1.1	19.92	41,438	HS	N	L	T9	T11	T1	T4	T5								
Automotive Service Technicians & Mechanics	535	590	1.0	16.71	34,752	HS	N	L	T1	T9	T11	T2	T8								
Machinists	835	915	1.0	18.81	39,123	HS	N	L	T5	T8	T4	T11	B3	B6							
Maintenance & Repair Workers, General	1,520	1,645	0.8	18.14	37,731	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
Shipping, Receiving, & Traffic Clerks	505	540	0.7	15.01	31,229	HS	N	S	B7	B2	SY1	B6	R4								
Inspectors, Testers, Sorters, Samplers, & Weighers	930	975	0.5	20.77	43,193	HS	N	M	B3	B2	B9	B7	B6	T5							
Farmers, Ranchers, & Other Agricultural Managers	5,585	4,995	-1.1	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

REGION 8

Construction Laborers	380	455	2.0	13.92	28,955	< HS	N	S	B9	SO1	B2	B3	T4	T5	SO6						
Heavy & Tractor-Trailer Truck Drivers	1,405	1,575	1.2	17.19	35,762	PS	N	S	T4	T5	B6	B2	B3	T8							
Maintenance & Repair Workers, General	345	385	1.2	15.83	32,922	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7	R4		
Automotive Service Technicians & Mechanics	295	325	0.8	18.14	37,723	HS	N	L	T1	T9	T11	T2	T8								
General & Operations Managers	375	400	0.7	48.49	100,863	BA	< 5	N	B2	B7	B9	B3	B6								
Farmers, Ranchers, & Other Agricultural Managers	3,035	2,805	-0.8	N.A.	N.A.	HS	> 5	N	B3	B9	B2	SY1	B7	R4							

Legend/Methodology/Selection Criteria:

The basis for **Iowa's 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 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**: 2012-2022 Occupational Projections estimates based on 2012 annual industry employment data and 2013 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**: 2014 Iowa Wage Survey estimates (based on 2013 2nd quarter occupational wage data updated from 2014 2nd quarter using Employment Cost Index), Labor Market and Workforce Information Division, Iowa Workforce Development.

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 <http://iwin.iowaworkforce.org/> to obtain the latest workforce data and trends including this document under the **Publications** tab. Published 10/2014.