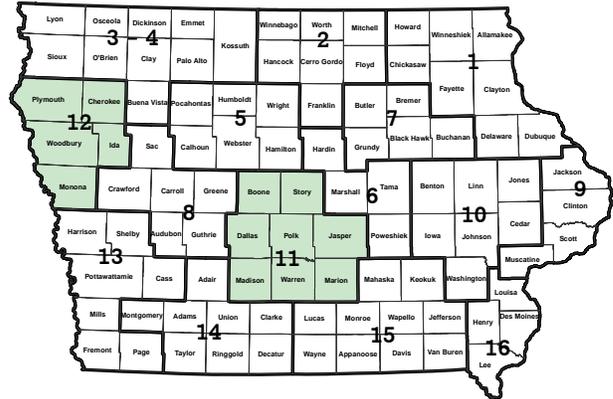


REGIONS 11, 12

WORKFORCE DEVELOPMENT

GREEN JOBS



INCREASED DEMAND OCCUPATIONS

REGION 11

Occupational Title	Employment <sup>[1]</sup>			\$ <sup>[2]</sup>		Career Preparation <sup>[3]</sup>			Top Skills <sup>[4]</sup>											
	2012 Est	2022 Proj	Annual Growth Rate (%)	2014 Mean Wage	2014 Mean Salary	Educ	Work Exp	Job Training	(L-R in order of significance)											
Carpenters	2,600	3,415	3.2	20.33	42,296	HS	N	A	B3	T2	T5	B2	SO1	SY1	B5	B6	T8	R4		
Industrial Machinery Mechanics	1,205	1,565	3.0	21.08	43,856	HS	N	L	T9	T1	T5	T11	T8							
Software Developers, Systems Software	765	985	2.9	47.57	98,955	BA	N	N	B3	B2	T7	B7	C1							
Structural Iron and Steel Workers	125	160	2.8	25.22	52,452	HS	N	A	T4	T5	SO1	B3	SY1	B6	B7	B9				
Heat/A C/Refrig Mechanics and Installers	1,160	1,475	2.7	23.71	49,309	PS	N	L	T3	T11	T9	T1	T5							
Computer-Controlled Machine Tool Operators, Metal and Plastic	845	1,060	2.5	N.A.	N.A.	HS	N	M	B6	T5	B3	T8	T4							
Electricians	2,190	2,725	2.5	25.40	52,837	HS	N	A	T11	T9	B2	B3	T5	T8						
Operating Engineers and Other Const Equipment Operators	1,095	1,365	2.4	23.36	48,584	HS	N	M	T4	T5	B2	B6	B9							
Electrical/Electronics Repairers, Commercial/Indust Equip	265	320	2.1	23.77	49,437	PS	N	L	T9	T8	T5	T11	B3	T1						
Customer Service Representatives	9,735	11,675	2.0	16.34	33,985	HS	N	S	B2	B9	SO5	SO4	B7							
Helpers--Installation, Maintenance, and Repair Workers	210	255	1.9	12.90	26,822	HS	N	M	B2	T5	T1	T2	B6	T4	T8	B9				
Laborers and Freight, Stock, and Material Movers, Hand	5,505	6,440	1.7	13.31	27,694	< HS	N	S	B2	B3	T5	SO1	B6	B7	B9					
Electrical Power-Line Installers and Repairers	245	285	1.6	23.43	48,734	HS	N	L	B2	B6	B3	T11	B1	C1	SY1	T4	T5	T8	T9	
Industrial Engineers	550	630	1.5	34.71	72,193	BA	N	N	B7	B2	C1	B3	B10							
Dispatchers, Except Police, Fire, and Ambulance	550	630	1.5	19.23	40,002	HS	N	M	B2	B9	SO1	B7	R4							
Team Assemblers	4,225	4,855	1.5	15.22	31,656	HS	N	M	SO1	B2	B3	B9	B6	B7						
Occupational Health and Safety Specialists	225	255	1.3	28.42	59,119	BA	N	S	B2	B9	B3	C1	SY1	SO6	B10					
Bus Drivers, Transit and Intercity	490	550	1.2	15.05	31,304	HS	N	M	T4	T5	B2	R4	B3	SO5	SO6	B9				
First-Line Supervisors of Mechanics, Installers, and Repairers	1,240	1,390	1.2	29.01	60,335	HS	< 5	N	R3	B6	SO1	B3	R4							
Production, Planning, and Expediting Clerks	745	830	1.2	22.04	45,848	HS	N	M	B7	B2	B3	B9	R4							
Chemical Technicians	230	255	1.1	18.77	39,048	AS	N	M	B8	B7	B3	B6	B10							
Industrial Production Managers	565	625	1.1	39.77	82,715	BA	> 5	N	SO1	B2	B6	R3	R4							
Environmental Scientists and Specialists, Including Health	255	280	1.0	30.55	63,552	BA	N	N	B8	B3	B7	B9	B2	B10						
Welders, Cutters, Solderers, and Brazers	875	945	0.8	17.15	35,665	HS	N	M	B3	B2	B6	SY1	T4	T5						
First-Line Supervisors of Production and Operating Workers	1,435	1,530	0.7	26.57	55,262	PS	< 5	N	B3	R4	B2	B9	SO1	R3	B9					
Mixing and Blending Machine Setters, Operators, and Tenders	400	415	0.4	16.94	35,225	HS	N	M	T5	T4	B6	B7	B2	T8						
Industrial Truck and Tractor Operators	1,870	1,915	0.3	16.41	34,141	< HS	N	S	T4	T5	SO1	T1	B2	B3	B6					

REGION 12

Carpenters	500	645	2.9	17.34	36,067	HS	N	A	B3	T2	T5	B2	SO1	SY1	B5	B6	T8	R4
Industrial Machinery Mechanics	310	395	2.7	20.36	42,353	HS	N	L	T9	T1	T5	T11	T8					
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	210	260	2.4	21.96	45,672	PS	N	L	T3	T11	T9	T1	T5					
Team Assemblers	1,095	1,300	1.9	9.89	20,578	HS	N	M	SO1	B2	B3	B9	B6	B7				
Electricians	270	315	1.7	22.25	46,272	HS	N	A	T11	T9	B2	B3	T5	T8				
Operating Engineers & Other Construction Equipment Operators	430	495	1.5	19.67	40,920	HS	N	M	T4	T5	B2	B6	B9					
Customer Service Representatives	700	790	1.3	14.39	29,924	HS	N	S	B2	B9	SO5	SO4	B7					
Laborers & Freight, Stock, and Material Movers, Hand	1,695	1,905	1.2	12.90	26,833	< HS	N	S	B2	B3	T5	SO1	B6	B7	B9			
First-Line Supervisors of Mechanics, Installers, & Repairers	240	260	0.8	27.47	57,131	HS	< 5	N	R3	B6	SO1	B3	R4					
Welders, Cutters, Solderers, & Brazers	375	400	0.8	16.86	35,073	HS	N	M	B3	B2	B6	SY1	T4	T5				
Mixing & Blending Machine Setters, Operators, & Tenders	255	275	0.8	15.30	31,819	HS	N	M	T5	T4	B6	B7	B2	T8				
First-Line Supervisors of Production & Operating Workers	445	470	0.7	26.16	54,415	PS	< 5	N	B3	R4	B2	B9	SO1	R3	B9			
Industrial Truck & Tractor Operators	770	805	0.5	14.23	29,598	< HS	N	S	T4	T5	SO1	T1	B2	B3	B6			

# ENHANCED SKILLS OCCUPATIONS

## REGION 1 I

Occupational Title	Employment <sup>[1]</sup>			\$ <sup>[2]</sup>		Career Preparation <sup>[3]</sup>			Top Skills <sup>[4]</sup>									
	2012 Est	2022 Proj	Annual Growth Rate (%)	2014 Mean Wage	2014 Mean Salary	Educ	Work Exp	Job Training	(L-R in order of significance)									
Personal Financial Advisors	735	995	3.5	37.46	77,909	BA	N	N	B3	B9	B7	SY1	B10					
Construction Laborers	2,755	3,520	2.8	16.66	34,644	< HS	N	S	B9	SO1	B2	B3	T4	T5	SO6			
Plumbers, Pipefitters, and Steamfitters	1,410	1,805	2.8	23.44	48,753	HS	N	A	SO1	R4	B3	T5	B2	SY1	B6	B9		
Heat/A C/Refrig Mechanics and Installers	1,160	1,475	2.7	23.71	49,309	PS	N	L	T3	T11	T9	T1	T5					
Construction Managers	860	1,085	2.6	34.26	71,270	BA	N	M	R4	B2	B3	R3	B9					
Sheet Metal Workers	370	460	2.4	N.A.	N.A.	HS	N	A	B3	SY1	R4	B5	B2	SO1	B6	B7	B9	
Civil Engineers	885	1,070	2.1	36.38	75,662	BA	N	N	C1	B3	SY1	B5	T6	B7				
Marketing Managers	695	840	2.1	64.14	133,410	BA	> 5	N	B2	SO4	SO6	B9						
Financial Analysts	1,285	1,555	2.1	37.58	78,162	BA	N	N	B3	B7	B10	B2	C1					
Architects, Except Landscape and Naval	355	425	2.0	32.78	68,183	BA	N	I	B2	B3	C1	B9	SY1	B7				
Heavy and Tractor-Trailer Truck Drivers	6,495	7,750	1.9	20.69	43,026	PS	N	S	T4	T5	B6	B2	B3	T8				
Refuse and Recyclable Material Collectors	315	380	1.9	15.06	31,322	< HS	N	S	T4	T5	SO1	B3	B2	SY1	B6	SO6	B9	
General and Operations Managers	5,530	6,570	1.9	48.45	100,770	BA	< 5	N	B2	B7	SO9	B3	B6					
Training and Development Specialists	1,020	1,205	1.8	27.55	57,309	BA	< 5	N	B9	SO2	B4	B7	B2					
Roofers	395	465	1.8	18.87	39,243	< HS	N	M	SO1	T4	B2	B3	R4					
Public Relations Specialists	1,090	1,280	1.7	31.77	66,084	BA	N	N	B9	B2	B3	B7	B10					
Wholesale and Retail Buyers, Except Farm Products	335	390	1.6	29.88	62,148	HS	N	L	B2	SO3	SO4	B9	B3					
Mechanical Engineers	465	540	1.5	34.06	70,851	BA	N	N	C1	B3	B2	SY1	B5	B7				
Sales Reps, Wholesale and Mfg, Tech/Scientific Products	875	995	1.4	37.16	77,294	BA	N	M	B9	SO4	B2	SO6	SO3	B7	SO5			
Agricultural and Food Science Technicians	530	595	1.3	17.16	35,695	AS	N	M	B7	B3	B10	B2	C1	SO1	B9			
Bus and Truck Mechanics and Diesel Engine Specialists	995	1,120	1.3	20.19	41,992	HS	N	L	T9	T11	T1	T4	T5					
Construction and Building Inspectors	240	270	1.3	26.69	55,522	HS	> 5	M	B2	B7	C1	B3	SY1	B9				
Architectural and Engineering Managers	260	290	1.2	51.39	106,885	BA	> 5	N	B2	B7	B9	B10	C1	SO1	R3	B6	T6	R4
Transportation, Storage, and Distribution Managers	350	395	1.1	39.97	83,136	HS	> 5	N	B7	B9	B2	SO1	B3	R4				
Soil and Plant Scientists	1,370	1,495	0.9	35.21	73,229	BA	N	N	B8	B2	B3	B9	SY1	B7				
Shipping, Receiving, and Traffic Clerks	1,360	1,470	0.8	15.86	32,979	HS	N	S	B7	B2	SY1	B6	R4					
Farmers, Ranchers, and Other Agricultural Managers	16,870	14,935	-1.1	29.82	62,035	HS	> 5	N	B3	B9	B2	SY1	B7	R4				
Reporters and Correspondents	440	365	-1.7	16.23	33,762	BA	N	N	B2	B9	B10	B7	B3	R4				

## REGION 12

Construction Laborers	815	1,030	2.6	13.56	28,198	< HS	N	S	B9	SO1	B2	B3	T4	T5	SO6			
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	210	260	2.4	21.96	45,672	PS	N	L	T3	T11	T9	T1	T5					
Plumbers, Pipefitters, & Steamfitters	475	585	2.3	20.69	43,033	HS	N	A	SO1	R4	B3	T5	B2	SY1	B6	B9		
Heavy & Tractor-Trailer Truck Drivers	2,345	2,730	1.6	19.27	40,079	PS	N	S	T4	T5	B6	B2	B3	T8				
Bus & Truck Mechanics & Diesel Engine Specialists	335	375	1.2	17.71	36,839	HS	N	L	T9	T11	T1	T4	T5					
General & Operations Managers	850	955	1.2	43.54	90,554	BA	< 5	N	B2	B7	B9	B3	B6					
Maintenance & Repair Workers, General	690	770	1.2	16.94	35,233	HS	N	L	T9	T1	T11	B3	C1	T2	B6	T5	T8	B7
Automotive Service Technicians & Mechanics	500	545	0.9	19.42	40,403	HS	N	L	T1	T9	T11	T2	T8					
Farmers, Ranchers, & Other Agricultural Managers	4,745	4,240	-1.1	36.08	75,056	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 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**: 2014 Iowa Wage Survey estimates (based on 2013 2<sup>nd</sup> quarter occupational wage data updated from 2014 2<sup>nd</sup> 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.