



IOWA'S GREEN JOBS

2008-2018

JUNE 2011

INCREASED DEMAND OCCUPATIONS

Occupational Title	2008 Estimated Employment	2018 Projected Employment	Annual Growth Rate (%)	2010 Mean Hourly Wage*	2010 Mean Annual Salary	Education/Training Level**	Top Skills***
Refrigeration Mechanics and Installers	3,140	4,220	3.4	\$20.10	\$41,808	9	T3, T11, T9, T1, T5
Computer Software Engineers, Systems Software	2,725	3,580	3.1	37.34	77,664	5	B3, B2, T7, B7, C1
Customer Service Representatives	25,170	31,200	2.4	14.13	29,385	10	B2, B9, SO5, SO4, B7
Mixing and Blending Machine Setters	1,985	2,415	2.2	16.53	34,375	10	T5, T4, B6, B7, B2, T8
Industrial Engineers	2,305	2,795	2.1	33.61	69,900	5	B7, B2, C1, B3, B10
Environmental Scientists and Specialists	860	1,040	2.1	32.02	66,604	3	B8, B3, B7, B9, B2, B10
Helpers--Carpenters	640	770	2.0	12.38	25,760	11	B2, SO1, B3, B6, SO6
Occupational Health and Safety Specialists	480	575	2.0	27.56	57,334	5	B2, B9, B3, C1, SY1, SO6, B10
Computer-Controlled Machine Tool Operators	2,645	3,160	1.9	16.03	33,343	10	B6, T5, B3, T8, T4
Insulation Workers, Floor, Ceiling, and Wall	370	435	1.8	16.00	33,276	10	T5, B6, T4, SO1, B3, SY1, T8, R4
Electrical and Electronics Repairers	780	895	1.5	26.11	54,305	7	T9, T8, T5, T11, B3, T1
Industrial Machinery Mechanics	4,055	4,645	1.5	20.79	43,255	9	T9, T1, T5, T11, T8
Cement Masons and Concrete Finishers	4,285	4,895	1.4	16.12	33,523	10	B6, B2, SO1, B3, SY1
Electricians	7,445	8,500	1.4	23.13	48,100	9	T11, T9, B2, B3, T5, T8
Structural Iron and Steel Workers	995	1,125	1.3	22.69	47,188	9	T4, T5, SO1, B3, SY1, B6, R4
Carpenters, Construction and Rough	16,480	18,330	1.1	17.84	37,114	9	B3, T2, T5, B2, SO1, SY1, B5, B6, T8, R4
Industrial Truck and Tractor Operators	12,460	13,685	1.0	14.58	30,329	11	T4, T5, SO1, T1, B2, B3, B6
Millwrights	800	875	0.9	20.45	42,528	9	T3, T1, T5, B3, T9, T11
Production, Planning, and Expediting Clerks	3,150	3,450	0.9	17.75	36,920	10	B7, B2, B3, B9, R4
Operating Engineers & Other Const Equip Operators	5,195	5,675	0.9	19.89	41,382	10	T4, T5, B2, B6, B9
Team Assemblers	24,910	27,210	0.9	15.02	31,254	10	SO1, B2, B3, B9, B6, B7
Chemists	485	525	0.8	29.36	61,070	5	B8, B7, B2, B3, C1, B9
Helpers--Installation, Maintenance, & Repair Workers	980	1,050	0.7	12.73	26,468	11	B2, T5, T1, T2, B6, T4, T8, B9
Engine and Other Machine Assemblers	1,585	1,680	0.6	16.32	33,959	11	T5, B3, T8, B2, B6, B7
Bus Drivers, Transit and Intercity	2,015	2,125	0.5	13.77	28,649	10	T4, T5, B2, R4, B3, SO5, SO6, B9
First-Line Supvs/Mgrs of Mechanics/Installers/Repairers	4,265	4,465	0.5	27.94	58,118	8	R3, B6, SO1, B3, R4
Architectural and Civil Drafters	875	915	0.5	22.89	47,614	7	B2, B3, SY1, B7, B9
Welders, Cutters, Solderers, and Brazers	9,635	10,045	0.4	16.09	33,473	7	B3, B2, B6, SY1, T4, T5
Forest and Conservation Technicians	495	515	0.4	19.83	41,242	6	B3, B2, B7, SY1, B9
Commercial and Industrial Designers	520	540	0.4	23.48	48,846	5	B2, B3, B7, B9, C1
Structural Metal Fabricators and Fitters	2,070	2,145	0.4	15.19	31,583	10	B2, B3, B9, B6, B7, SO6
Laborers and Freight, Stock, and Material Movers	24,685	25,145	0.2	12.26	25,500	11	B2, B3, T5, SO1, B6, B7, B9
First-Line Supvs/Mgrs of Prod and Operating Workers	9,805	9,970	0.2	26.52	55,158	8	B3, R4, B2, B9, SO1, R3, B9
Industrial Production Managers	2,140	2,170	0.2	45.30	94,215	8	SO1, B3, B6, R3, R4
Electrical and Electronic Engineering Technicians	1,090	1,100	0.1	25.67	53,397	6	C1, B7, R4, B2, B3, B9

ENHANCED SKILLS OCCUPATIONS

Occupational Title	2008 Estimated Employment	2018 Projected Employment	Annual Growth Rate (%)	2010 Mean Hourly Wage*	2010 Mean Annual Salary	Education/Training Level**	Top Skills***
Personal Financial Advisors	1,450	2,000	3.8	\$30.77	\$64,003	5	B3, B9, B7, SY1, B10
Heating and AC Mechanics and Installers	3,140	4,220	3.4	20.10	41,808	9	T3, T11, T9, T1, T5
Training and Development Specialists	2,470	3,110	2.6	23.08	48,006	5	B9, SO2, B4, B7, B2
Civil Engineers	1,690	2,075	2.3	36.65	76,238	5	C1, B3, SY1, B5, T6, B7
Public Relations Specialists	2,215	2,675	2.1	22.49	46,778	5	B9, B2, B3, B7, B10
Financial Analysts	1,975	2,350	1.9	32.09	66,746	5	B3, B7, B10, B2, C1
Truck Drivers, Heavy and Tractor-Trailer	41,475	48,965	1.8	18.27	38,006	11	T4, T5, B6, B2, B3, T8
Construction Laborers	10,280	12,050	1.7	15.21	31,641	10	B9, SO1, B2, B3, T4, T5, SO6
Refuse and Recyclable Material Collectors	1,715	2,005	1.7	14.07	29,267	11	T4, T5, SO1, B3, B2, SY1, B6, SO6, B9
Industrial Engineering Technicians	715	830	1.6	26.81	55,765	6	B3, C1, B6, B2, B7
Construction Managers	3,620	4,185	1.6	40.13	83,469	5	R4, B2, B3, R3, B9
Plumbers, Pipefitters, and Steamfitters	6,220	7,180	1.5	22.20	46,190	9	SO1, R4, B3, T5, B2, SY1, B6, B9
Architects, Except Landscape and Naval	825	950	1.5	35.19	73,194	5	B2, B3, C1, B9, SY1, B7
Environmental Science and Protection Technicians	465	535	1.5	23.64	49,167	6	B7, B2, C1, B9, B10
Separating, Filtering, & Still Machine Operators	1,485	1,705	1.5	13.87	28,845	10	T5, B6, T4, C1, B3, SY1, C1, B3, SY1, T8, B9, B10
Marketing Managers	1,600	1,805	1.3	45.61	94,867	4	B2, B3, SO4, SO6, B9
Agricultural Technicians	1,180	1,315	1.1	15.68	32,631	6	B7, B3, B10, B2, C1, SO1, B9
Construction and Building Inspectors	725	805	1.0	23.10	48,045	8	B2, B7, C1, B3, SY1, B9
Maintenance and Repair Workers, General	15,225	16,770	1.0	17.02	35,390	10	T1, T9, B3, T2, T11
Mechanical Engineers	2,375	2,610	1.0	35.54	73,925	5	C1, B3, B2, SY1, B5, B7
Sheet Metal Workers	1,890	2,060	0.9	20.51	42,650	9	B3, SY1, R4, B5, B2, SO1, B6, B7, B9
Sales Representatives, Wholesale and Mfg	4,815	5,235	0.9	37.89	78,803	8	B9, SO4, B2, SO6, SO3, B7, SO5
Electrical Engineers	1,255	1,340	0.7	38.17	79,405	5	B3, B7, B2, C1, B10
Automotive Specialty Technicians	9,575	10,140	0.6	16.88	35,099	7	T1, T9, T11, T2, T8
Engineering Managers	1,225	1,290	0.5	53.30	110,857	4	B2, B7, B9, B10, C1, SO1, R3, B6, T6, R4
Roofers	1,540	1,610	0.5	16.15	33,587	10	SO1, T4, B2, B3, R4
Machinists	5,595	5,790	0.4	17.21	35,814	9	T5, T8, T4, T11, B3, B6
Inspectors/Testers/Sorters/Samplers/Weighers	5,740	5,910	0.3	15.96	33,192	10	B3, B2, B9, B7, B6, T5
Electrical Engineering Technicians	1,090	1,100	0.1	25.67	53,397	6	C1, B7, R4, B2, B3, B9
Power Plant Operators	710	720	0.1	24.78	51,547	9	T5, B2, B3, B9, T4, T8
General and Operations Managers	10,350	10,380	0.0	49.34	102,632	4	B2, B7, B9, B3, B6

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 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/>.

***Mean Wage**, also known as the average wage, is computed by dividing the estimated total wage for a reported occupation by its weighted employment.

****Education/Training Level** provides categorically the most significant education or training pathway to employment for each occupation according to the U.S. Department of Labor's Bureau of Labor Statistics (BLS). There may be alternative pathways into an occupation, however, as well as additional educational, training, or licensing requirements. Iowa Workforce Development (IWD) will use Iowa requirements when available. The levels are as follows: 1 = First Professional degree; 2 = Doctoral degree; 3 = Master's degree; 4 = Bachelor's or higher degree, plus work experience; 5 = Bachelor's degree; 6 = Associate degree; 7 = Postsecondary vocational training; 8 = Work experience in a related occupation; 9 = Long-term on-the-job training; 10 = Moderate-term on-the-job training; 11 = Short-term on-the-job training.

*****Top Skills** refers to those skills identified through questionnaire responses by sampled workers and occupation experts by the U.S. Department of Labor's Occupational Information Network (O*NET) as being the top five (or more if tied) most important for a particular occupation. 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.

Sources:

Education/Training Level: Bureau of Labor Statistics, U.S. Department of Labor; **Employment**: 2008-2018 Occupational Projections, Iowa Workforce Development; **Skills**: Occupational Information Network (O*NET), Employment and Training Administration, U.S. Department of Labor; **Wages**: 2010 Iowa Wage Survey based on the May 2009 Occupational Employment Statistics Wage Survey of wage and employment estimates which is updated to the second quarter of 2010 using the Employment Cost Index, Iowa Workforce Development; and **Logo**: Developed by Gary Anderson, nontrademarked recycled symbol used to bring awareness to sustainable and/or "green" economic activities.

This publication was produced by the Labor Market and Workforce Information Division of Iowa Workforce Development. 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 6/2011.