Credentials That Work

JOBS FOR THE FUTURE

ANALYZING BUILDING ENERGY EFFICIENCY JOB OPPORTUNITIES

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LABOR MARKET REPORT: For the NATIONAL INSTITUTE OF BUILDING

Jobs for the Future (JFF), a national nonprofit organization recognized as a leader in workforce development, brings significant expertise in the mining and use of real-time labor market information (LMI) to improve the quality and content of workforce development initiatives to increase reemployment and employment opportunities for jobseekers in growth industries.

JFF's key capacities include: using both traditional and real-time labor market information to analyze demand-side economic data; analyzing supply-side economic data in partnership with Workforce Investment Boards (WIBs), education and training providers and other stakeholders; evaluating the state of workforce capacity building and the social and economic trends that influence workforce development; aligning economic and workforce development efforts; using data to focus on the economic drivers of good jobs and career opportunities; and developing strategic recommendations for workforce system stakeholders about key areas of future investment.

LABOR MARKET REPORT: For the NATIONAL INSTITUTE OF BUILDING SCIENCES

The National Institute for Building Sciences for the U.S. Department of Energy Better Buildings Workforce Guidelines project tasked JFF with conducting a national analysis of 14 occupations[1] across four job classifications related to the commercial workforce in advanced energy efficiency. JFF analyzed national job growth projections (2013-2018), job demographics (2014) and job postings (2014) for 14 select building science occupations.

A combination of traditional and real-time labor market information was used for this analysis. Traditional labor market information (LMI) is drawn from federal government sources including the Bureau of Labor Statistics, Department of Labor, O*NET, and Department of Commerce and provides information on current occupational employment, projected employment growth, median average wages, as well as typical entry level education. EMSI was used to access over 90 federal data sources for this report.[2] Real-time labor market information draws data from online job postings on employer websites and job postings aggregators like Monster.com, scouring postings for information on current employer demand for different occupations, job titles, skills, and credentials. Burning Glass technologies was used to access this real-time information.[3] Used in combination, real-time and traditional data provide a rich view of the labor market landscape nationally for building occupations.[4]

The research reveals several significant data points about the growth of building science occupations and the potential employment opportunities in the sector. This is a critical moment to invest in educational and workforce training programs that prepare workers for these occupations. They are growing at a rate faster than jobs nationally (9.6% to 8.4%). From 2013-2018 over one million job openings are expected (1,036,442) due to attrition - about 36.6% of total projected openings. In addition, 58% of 2014 employees are expected to retire over the next 20 years. In 2014, employees in building science occupations with a college degree or higher as the typical entry-level education earned a median wage of $47.70 compared to $35.07

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[1] Building Occupations included in this report: Energy Auditors, Energy Engineers, Sustainability Specialists, Engineering Technicians (Except Drafters, All Others), Sheet Metal Workers, Electrician, Construction and Building Inspectors, Mechanical Engineers, Electrical Engineers, Architectural and Engineering Managers, Stationary Engineers and Boiler Operators, Maintenance and Repair Workers, Property, Real Estate, and Community Association Managers and Heating, Air Conditioning, and Refrigeration Mechanics and Installers.

[2] Economic Modeling Specialists Intl., a CareerBuilder company, turns labor market data into useful information about the economy through their Economic Modeling Systems (EMSI).

[3] Burning Glass/Labor Insight is an online platform that delivers job market analytics by analyzing hundreds of millions of job postings and real-life career transitions to provide insight into labor market patterns.

[4] Included in the appendix is a detailed overview of the data sources as well as their limitations and strengths.

for jobs nationally. For employees in occupations with some college or an Associate in Arts (AA) degree as the entry level education the median wage was $24.34 compared to $22.05 for jobs nationally. Interestingly, the top in-demand skills and certifications in building sciences occupations - organizational skills, communication skills, writing, and planning - are not unique to these occupations. In fact, these are the same “soft skills” that are found in job postings throughout the national economy.

Building Occupations reviewed in this analysis

BUILDING COMMISSIONING PROFESSIONAL

Engineering Technicians, Except Drafters, All Other

Sheet Metal Worker

BUILDING ENERGY AUDITOR

Construction and Building Inspectors

Electrician

Energy Auditors

Energy Engineers

BUILDING ENERGY MANAGER

Architectural and Engineering Managers

Electrical Engineers

Mechanical Engineers

Sustainability Specialists

BUILDING OPERATIONS PROFESSIONAL

Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Maintenance and Repair Workers, General

Property, Real Estate, and Community Association Managers

Stationary Engineers and Boiler Operators

*The occupations included here are the most relevant choices from O*NET for this study but are not directly related or fully representative of energy efficiency jobs in all cases.*

The following are a summary of key findings in the data for the building occupations sector including 1) the combined trends for the building occupations as a singular sector, 2) top trends across each of the 14 occupations in the study, and 3) top trends across the 4 Better Buildings

Workforce Guidelines[5] energy efficiency job categories. Each occupation maps onto one of the four job categories.

KEY FINDINGS: ALL BUILDING OCCUPATIONS

- Participants in building science occupations earned a median wage of $22.59, 14.3% higher than the national average.
- The number of building science occupation jobs is projected to grow 9.6% compared to the national rate of 8.4% from 2013-2018.
- Building science occupation jobs were 87.2% Male and 79% White (Not Hispanic or Latino), higher in these categories than the national average.
- The leading age demographic in 2014 was 45-54 at 28.4% compared to 23.4% nationally. Nationally, 58% of those currently employed in the selected occupations are expected to retire in the next 20 years.
- Workers in building science occupations with some college to an AA degree earned a higher median wage in 2014 at $24.34 than the national average of $22.05. Workers in building science occupations with high school or less as the entry-level education earned $21.36 compared to $16.90 for jobs nationally. For Bachelor of Arts (BA) or higher the median wage rates was $47.70 for building sciences compared to $35.07 for jobs nationally.
- Workers with no experience earned a higher median wage in building sciences occupations ($27.17) compared to inexperienced workers in all other occupations ($22.09).
- Two of the top ten in-demand specialized skills for building sciences—Repair and Inspection—are among the top ten in-demand specialized skills in all other occupations.
- The top requested baseline skills requested by job postings for both building science occupations and jobs nationally include communication skills, organizational skills, writing, Microsoft Office, planning, and problem solving.
- The top requested software skills requested by job postings for both building science occupations and jobs nationally include Microsoft Office, Microsoft Windows, SAP, Computer Aided Drafting/Design (CAD), and Word Processing.
- Commercial Driver's License appears among the top 10 certifications for both building science occupations and jobs nationally.

[5] www4.eere.energy.gov

KEY FINDINGS: OCCUPATION OVERVIEW

The analysis also included a comparison of of the data and trends comparing each occupation within the building sciences sector.[6] These occupations include: Energy Auditors, Energy Engineers, Sustainability Specialists, Engineering Technicians (Except Drafters, All Others), Sheet Metal Workers, Electrician, Construction and Building Inspectors, Mechanical Engineers, Electrical Engineers, Architectural and Engineering Managers, Stationary Engineers and Boiler Operators, Maintenance and Repair Workers, Property, Real Estate, and Community Association Managers, and Heating, Air Conditioning, and Refrigeration Mechanics and Installers.

Overall when examining the occupations within the building sector each occupation is expected to grow from 2013-2018. Many of these occupations provide opportunities for workers with less than a BA degree and with limited experience. There may be an opportunity for training and preparing workers for many of the entry-level positions in this sector by providing access to an Associate's degree or shorter tem training programs through apprenticeships or other work-based learning. Additional findings include:

- Eight building science occupations do not require years of experience for entry including electrical engineers and sheet metal workers with Heating, Air Conditioning, and Refrigeration Mechanics and Installers, Maintenance and Repair Workers, and Stationary Engineers and Boiler Operators requiring long-term on the job training.
- Eight of the eleven building science occupations require an Associate's degree or less as typical entry-level education excluding Architectural and Engineering Managers, Electrical Engineers, and Mechanical Engineers.
- Each building science occupation is projected to grow from 2013-2018 led by Property, Real Estate, and Community Association Managers at 17.7%.
- Less than 40% of jobs across each building science occupation required a BA degree or higher except Electrical Engineers at 79.1% and Mechanical Engineers at 74.4%.
- Five occupations do not require typical on the job training including Property, Real Estate, and Community Association Managers, Electrical Engineers, Mechanical Engineers, Engineering Technicians, and Architectural and Engineering Managers.

[6] The complete data tables include detailed data reports and an overview of traditional and real-time data by occupation and energy efficiency job category. They are available upon request. Contact the Commercial Workforce Credentialing Council at the National Institute of Building Sciences for more information.

- Property, Real Estate, and Community Association Mangers will also see the highest annual (83,985) and overall job openings (419,924) over the same span of any occupation in this study.
- Maintenance and Repair Workers, General are projected to see the second highest annual (46,957) and overall job openings (234,784) from 2013-2018.
- Out of 980 industries, the leading industries in 2014 for building science occupations are Electrical Contractors and Other Wiring Installation Contractors with 422,809 jobs, Lessors of Residential Buildings and Dwellings with 362,229 jobs, and Offices of Real Estate Agents and Brokers with 321,415 jobs.
- For the Engineering Technicians, Except Drafters, All Others occupation the leading job title is Engineering Technician at 5,335 postings in 2014 followed by Engineering/Architectural Technician at 115 postings.
- Repair (1,705 postings) and Blueprints (1,041 postings) are the leading specialized skills for Sheet Metal Worker.
- With over 1,000 postings the leading baseline and software skills for Construction and Building Inspectors are writing, communication, quality assurance and control, organizational skills, and Microsoft Excel. Inspection is the leading specialized skill requested with 5,612 total postings.

KEY FINDINGS: ENERGY EFFICIENCY JOBS OVERVIEW

The last group of jobs reviewed are the four Better Buildings Workforce Guidelines[7] energy efficiency job categories that each of the occupations in this study map onto within the building science sector. Those jobs include Building Commissioning Professional, Building Energy Auditor, Building Energy Manager, and Building Operations Manager.[8]

When reviewing the building sector through the lens of the core energy efficiency jobs, each job is projected to grow from 2013-2018. This is occurring even as there are limited academic and training programs preparing workers for the sector. There are opportunities for developing training programs to help fill the expected annual openings from the sector, as some of the jobs do not have educational programs specifically designed to meet their requirements. Given that

[7] www4.eere.energy.gov

[8] The complete data tables include detailed data reports and an overview of traditional and real-time data by occupation and energy efficiency job category. They are available upon request. Contact the Commercial Workforce Credentialing Council at the National Institute of Building Sciences for more information.

46-64% of 2014 workers across each job are expected to retire over the next 20 years and the predominance of men and white workers in the sector, there is an opportunity for developing training programs to prepare new and diverse workers to help fill in the jobs that are expected to be available. Additional findings include:

- Each of the energy efficiency jobs are held predominately by men (83.5% of jobs in 2014 or higher) led by Building Energy Auditor at 96.6% in 2014.
- Each of the energy efficiency jobs is projected to grow between 2013-2018 with Building Operations Professional growing the fastest at 11.5% and Building Energy Manager growing the slowest at 5%.
- In 2013 only three higher educational programs[9] trained Building Energy Auditors producing 14,868 completions for 36,368 openings. Programs training Building Operations Professionals also produced fewer completions (67,766) than openings (161,673) in 2013. This suggests that there are opportunities for the development of more programs to help fill openings in the labor market. Higher Educational programs provide Associate's or Bachelor's degrees for programs including Architecture, Urban Planning, and Materials Engineering among others. Multiple higher education institutions can offer the same program.
- 64% of 2013 Building Operations Professionals are projected to retire over the next 20 years with a projected 741,831 total openings from 2013-2018, the highest among the Building Occupation jobs. Building Commissioning Professional is projected to have the fewest number of retirements with 2013 employees over the next twenty years with 46% and 36,273 total openings from 2013-2018.
- Building Operations Professional had the most job postings in 2014 with 253,821 while Building Commissioning Professional had the least with 11,674.
- 85% of job postings for Building Commissioning Professional provide opportunities for sub-BA degree holders. This is followed by 84% of job postings for Building Operations Professional, 28% of job postings for Building Energy Auditor, and 2% of job postings for Building Energy Manager.

[9] The Classification of Instructional Programs support the accurate tracking and reporting of fields of study and program completions activity.

TRADITIONAL LABOR MARKET DATA: NATIONAL COMPARISONS WITH ALL OTHER OCCUPATIONS

In this section the traditional data around Building Science occupations is compared to total occupations nationally.

O*NET code	Occupation Title (11 Occupations)
11-9041	Architectural and Engineering Managers
11-9141	Property, Real Estate, and Community Association Managers
17-2071	Electrical Engineers
17-2141	Mechanical Engineers
17-3029	Engineering Technicians, Except Drafters, All Other
49-9017	Maintenance and Repair Workers, General
47-2111	Electrician
47-2211	Sheet Metal Worker
47-4011	Construction and Building Inspectors
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
51-8021	Stationary Engineers and Boiler Operators

** Due to limitations in the EMSI software (SOC code provided only at 6-digit level) the following two occupations were not available in the traditional data pull:*

- *Energy Auditors (13-1199.01)*
- *Sustainability Specialists (13-1199.05)*
- *Energy Engineers (17-2199.03)*

Traditional data is provided on:

- *The total and percentage change in jobs projected (2013-2018)*
- *Median earnings*
- *Job Postings Activity*
- *Demographics—age, gender, race/ethnicity—of job-holders*
- *Typical entry level education required*
- *Years of work experience required*
- *Building Energy Efficiency Occupations comparison with national averages*

Industry Overview

Industry	2014 Jobs	%Change	Years	2014 Median Earnings
Building Occupations	4,967,289	9.6%	2013-2018	$22.59
All Occupations	187,132,061	8.4%	2013-2018	$19.37

Growth Overview

Industry	2013 Jobs	2018 Jobs	Change (2013-2018)	% Change (2013-2018)
Building Occupations	4,834,815	5,297,056	462,241	9.6%
All Occupations	182,886,135	198,170,013	15,283,878	8.4%

Job Postings Summary

Industry (Mar 2015)	Unique Postings	Postings Intensity	Total Postings	Regional Average
Building Occupations	130,869	4:1	561,433	6:1
All Occupations	6,318,821	6:1	36,375,571	6:1

Demographics: Gender

Building Occupations	2014 Jobs	2014 Percent
Males	4,333,255	87.2%
Females	634,034	12.8%

All Occupations	2014 Jobs	2014 Percent
Males	98,661,675	52.7%
Females	88,470,386	47.3%

Demographics: Age

Building Occupations	2014 Jobs	2014 Percent
14-18	13,008	0.3%
19-24	204,343	4.1%
25-34	767,316	15.4%
35-44	1,074,559	21.6%
45-54	1,409,477	28.4%
55-64	1,032,533	20.8%
65+	466,053	9.4%

All Occupations	2014 Jobs	2014 Percent
14-18	3,771,809	2.0%
19-24	18,436,652	9.9%
25-34	36,634,820	19.6%
35-44	39,846,579	21.3%
45-54	43,801,426	23.4%
55-64	31,786,382	17.0%
65+	12,854,393	6.9%

Demographics: Race

Building Occupations	2014 Jobs	2014 Percent
White (Not Hispanic or Latino)	3,922,853	79.0%
Hispanic or Latino (All Races)	457,290	9.2%
Black or African American (Not Hispanic or Latino)	319,128	6.4%
Asian (Not Hispanic or Latino)	196,502	4.0%
Two or More Races (Not Hispanic or Latino)	43,206	0.9%
American Indian or Alaska Native (Not Hispanic or Latino)	22,861	0.5%
Native Hawaiian or Other Pacific Islander (Not Hispanic or Latino)	5,448	0.1%

All Occupations	2014 Jobs	2014 Percent
White (Not Hispanic or Latino)	134,148,321	71.7%
Hispanic or Latino (All Races)	20,830,271	11.1%
Black or African American (Not Hispanic or Latino)	19,723,243	10.5%
Asian (Not Hispanic or Latino)	9,333,901	5.0%
Two or More Races (Not Hispanic or Latino)	1,939,734	1.0%
American Indian or Alaska Native (Not Hispanic or Latino)	891,216	0.5%
Native Hawaiian or Other Pacific Islander (Not Hispanic or Latino)	265,376	0.1%

Education

Industry	# Occupations	2014 Jobs	Education	2014 Median Earnings
Building Sciences	2	418,549	Some College to AA	$24.34
Building Sciences	3	649,153	BA or Higher	$47.70
Building Sciences	6	3,899,588	HS or Less	$21.36

Industry	# Occupations	2014 Jobs	Education	2014 Median Earnings
All Occupations	93	19,090,157	Some College to AA	$22.05
All Occupations	233	40,924,839	BA or Higher	$35.07
All Occupations	459	127,117,065	HS or Less	$16.90

Experience

Industry	# Occupations	2014 Jobs	Work Experience	2014 Median Earnings
Building Sciences	2	321,004	5 years or more	$42.54
Building Sciences	1	1,417,027	Less than 5 years	$17.50
Building Sciences	8	3,229,259	None	$27.17

Industry	# Occupations	2014 Jobs	Work Experience	2014 Median Earnings
All Occupations	27	6,798,197	5 years or more	$38.99
All Occupations	67	21,596,891	Less than 5 years	$24.77
All Occupations	692	158,736,973	None	$22.09

REAL-TIME LABOR MARKET DATA: NATIONAL COMPARISON WITH ALL OTHER OCCUPATIONS

In this section the real-time data around Building Science occupations is compared to total occupations nationally including top job titles, baseline skills, specialized skills, software skills, and certifications.

O*NET code	Occupation Title (14 Occupations)
11-9041	Architectural and Engineering Managers
11-9141	Property, Real Estate, and Community Association Managers
13.1199.01	Energy Auditors
13.1199.05	Sustainability Specialists
17-2071	Electrical Engineers
17-2141	Mechanical Engineers
17-2199.03	Energy Engineers
17-3029	Engineering Technicians, Except Drafters, All Other
49-9017	Maintenance and Repair Workers, General
47-2111	Electrician
47-2211	Sheet Metal Worker
47-4011	Construction and Building Inspectors
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
51-8021	Stationary Engineers and Boiler Operators

Total Postings	Industry
493,620	Building Occupations
18,905,697	All Occupations

Total Building Occupation Job Title Postings: 493,620

Total Postings	Top Job Titles (4 postings with unspecified title)
55,495	Maintenance Technician
34,822	Mechanic
22,038	Maintenance Mechanic
22,016	Mechanical Engineer
19,992	Electrical Engineer
19,026	Electrician
14,173	Engineering Manager
10,482	Maintenance Worker
9,257	Property Manager
6,920	Community Manager

Total National Job Title Postings: 18,905,697

Total Postings	Top Job Titles (2,456 postings with unspecified title)
336,565	Registered Nurse
218,810	CDL A Driver
156,633	Sales Associate
152,940	Customer Service Representative
130,372	Administrative Assistant
125,658	Sales Representative
118,672	Assistant Manager
109,759	Software Development Engineer
98,712	Merchandiser
97,036	Physical Therapist

Total Building Occupation Specialized Skill Postings: 493,620

Total Postings	Top Specialized Skills (114,498 postings with unspecified specialized skills)
161,958	Repair
59,072	Inspection
54,467	Plumbing
48,313	HVAC
42,916	Mechanical Engineering
39,849	Electrical Engineering
38,040	Machinery
31,015	Hand Tools
29,936	Welding
29,256	Painting

Total National Specialized Skill Postings: 18,905,697

Total Postings	Top Specialized Skills (6,399,206 postings with unspecified title)
1,049,725	Sales
873,092	Repair
838,658	Accounting
826,273	Scheduling
721,975	Mathematics
557,875	Patient Care
552,781	Inspection
539,762	Collaboration
506,515	SQL
499,654	Cleaning

Total Building Occupation Baseline Skill Postings: 493,620

Total Postings	Top Baseline Skills (114,498 postings with unspecified baseline skills)
107,390	Communication Skills
86,525	Troubleshooting
76,801	Organizational Skills
72,112	Preventive Maintenance
70,499	Writing
49,820	Problem Solving
49,619	Project Management
48,736	Planning
46,788	Microsoft Excel
45,114	Microsoft Office

Total National Baseline Skill Postings: 18,905,697

Total Postings	Top Baseline Skills (6,399,206 postings with unspecified baseline skills)
4,631,194	Communication Skills
3,413,856	Organizational Skills
2,954,068	Writing
2,186,955	Customer Service
1,879,007	Microsoft Excel
1,861,838	Problem Solving
1,693,815	Planning
1,471,231	Microsoft Office
1,437,500	Detail-Oriented
1,405,527	Research

Total Building Occupation Software Skill Postings: 493,620

Total Postings	Top Software Skills (114,498 postings with unspecified software skills)
46,788	Microsoft Excel
45,114	Microsoft Office
28,616	Computer Aided Drafting/Design (CAD)
21,293	AutoCAD
19,207	Microsoft Windows
17,565	Microsoft PowerPoint
13,216	Microsoft Word
7,817	SAP
6,102	Word Processing
5,612	Microsoft Project

Total National Software Skill Postings: 18,905,697

Total Postings	Top Software Skills (6,399,206 postings with unspecified software skills)
122	Microsoft Office
92	Microsoft Excel
57	Microsoft Windows
31	Microsoft Word
29	Microsoft PowerPoint
28	C++
17	SAP
16	Word Processing
10	Speech Recognition
9	Computer Aided Drafting/Design (CAD)

Total Building Occupation Certifications Postings: 493,620

Total Postings	Top Certifications (422,767 postings with unspecified certifications*)
8,386	Professional Engineer
4,992	Electrician Certification
4,613	American Society Of Mechanical Engineers (ASME) Certified
3,657	Project Management Certification (e.g., PMP)
3,189	Environmental Protection Agency Certification
2,402	Refrigeration Technician Certification (e.g., CFC Type 2)
1,891	Six Sigma Certification
1,333	Leadership in Energy and Environmental Design (LEED)
1,225	Boiler Operator License
1,203	Engineer in Training Certification

** 86% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.*

Total National Certifications Postings: 18,905,697

Total Postings	Top Certifications (15,736,409 postings with unspecified certifications*)
526,868	Registered Nurse
285,393	First Aid CPR AED
199,929	Certified Public Accountant
194,072	CDL Class A
144,364	Commercial Driver's License
122,178	Project Management Certification (e.g., PMP)
116,027	Certified Nursing Assistant
97,364	Basic Cardiac Life Support Certification
64,653	Advanced Cardiac Life Support (ACLS) Certification
63,195	Nurse Practitioner

** 83% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.*

APPENDIX: DATA SOURCES

Section 1: Traditional Labor Market Information

Traditional Labor Market Information: Traditional LMI is defined as regional, state, and national-level data concerning the overall economy and includes information on industries as well as occupations, demographics, wages, skills, and education levels. Traditional LMI data provide consistent time series, regional comparisons, and projections based on historical trends using time-tested and robust sampling methodologies, surveys, and research. .

Traditional LMI can be used to:

- Explore occupational and industry outlook and projections
- Compare occupational supply and demand
- Assess occupational wages and salary growth
- Measure regional industry and occupational significance and occupational share of industry
- Develop career ladders for industries and occupations of interest

EMSI Analyst, a data tool that allows users to access and automatically integrate data from several national data sources at one time, was used to assess traditional labor market data nationwide for the year of 2014. Due to limitations in the software, data is provided for 11 of the 14 occupations.

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

O*Net, an U.S. Department of Labor sponsored site, provides detailed descriptions of hundreds of occupations including occupational requirements and worker attributes using the Standard Occupational Classification (SOC) system to classify workers into occupational categories.

The O*NET program is the nation's primary source of occupational information. Central to the project is the O*NET database, containing information on hundreds of standardized and occupation-specific descriptors. The database, which is available to the public at no cost, is continually updated by surveying a broad range of workers from each occupation. Information from this database forms the heart of O*NET OnLine, an interactive application for exploring and searching occupations. The database also provides the basis for the Career Exploration

Tools, a set of valuable assessment instruments for workers and students looking to find or change careers. (https://www.onetonline.org)

O*NET was utilized to provide traditional data summaries in the appendix ("snapshots") for three occupations (energy auditors, energy engineers, sustainability specialists) based on Bureau of Labor Statistics data projections in O*NET.

Section 2: Real-Time Labor Market Information

Real-Time Labor Market Information: Real-time LMI is made up of data collected from hundreds of thousands of online job postings and resumes on Internet job boards, company websites, newspapers, and other sources. Data are collected through a "spidering" process with regular frequency, de-duplicated, and parsed to produce information on hiring requirements including education, experience, skills, and certifications by occupation and industry.

Real-time LMI can be used to:

- Understand employment demand in the current labor market
- Identify new and emerging occupations
- Identify current and emerging skill requirements for occupations and industries—including the skills, credentials, and experience that are in high demand
- Develop career ladders for industries and occupations of interest

Labor/Insight Jobs (Burning Glass Technologies) was used to provide the real-time data nationwide for 2014.

Both real-time and traditional labor market information have tremendous benefits and a few notable limitations as outlined in the following graph:

Section 3: Benefits vs. Limitations

	Benefits	Limitations
Traditional LMI	Reliable and robust	Looks backward to forecast; lacks current labor market perspective
	Consistent and methodologically rigorous	Significant lag time between data collection and publication
	Regional comparisons	Lacks data on employers' requirements
	Public, no-cost distribution	Does not effectively capture emerging occupations/skills requirements/certifications
Real-time LMI	Reveals new and emerging trends in occupational definitions	Some duplication errors (though this is less of a problem as the technology improves)
	Offers insight into the skills and certifications sought by regional employers	Certain trades (construction, manufacturing) do not use online job postings.
	Identifies early indications of market shifts; data is collected regularly	Online job ads can be vague or incomplete
	Tracks hiring demand	Not every job posting represents an actual vacancy
	Consistently updated	Proprietary software—users must purchase licenses

Given the benefits and limitations of the data, this report provides a listing of the real-time and traditional data, both of which are highlighted in order to create a holistic picture of the labor market that incorporates data on present labor market conditions as well as past and future trends including demographic changes and wage data.