**High** **Performance Building Occupations**

**Labor Market Information Report**

**Laney College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

October 2020

# Recommendation

Based on all available data, there appears to be an undersupply of High Performance Building workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda and Contra Costa Counties). There is a projected annual gap of about 9,266 students in the Bay region and 2,181 students in the East Bay Sub-Region.

**Introduction**

This report also provides student outcomes data on employment and earnings for TOP 0952.10-Carpentry programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Laney College and in the region.

This report profiles High Performance Building Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Laney College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Energy Auditors (13-1199.01) or Sustainability Specialists (13-1199.05), therefore, the data shown in Tables 1 and 2 is for Business Operations Specialists,All Other (at the six digit SOC level) and likely overstates demand for Energy Auditors and Sustainability Specialists. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for both Energy Auditors (13-1199.01) and Sustainability Specialists (13-1199.05).

Similarly, Labor market information (LMI) is not available at the eight-digit SOC Code level for Solar Sales Representatives and Assessors (41-4011.07) or Weatherization Installers and Technicians (47-4099.03), therefore, the data shown in Tables 1 and 2 is for Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products and Miscellaneous Construction and Related Workersrespectively (at the six digit SOC level) and likely overstates demand for Solar Sales Representatives and Assessors and Weatherization Installers and Technicians. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for both Solar Sales Representatives and Assessors (41-4011.07) and Weatherization Installers and Technicians (47-4099.03).

|  |
| --- |
| * **Business Operations Specialists, All Other / Project Management Specialists and Business Operations Specialists, All Other (13-1199 / 13-1198):** All business operations specialists not listed separately. |
| Entry-Level Educational Requirement: Bachelor's degree |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 23% |
|  |
| * **Miscellaneous Construction and Related Workers (47-4098):** All business construction and related Workers not listed separately. |
| Entry-Level Educational Requirement: High school diploma or equivalent |
| Training Requirement: Moderate-term on-the-job training |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 0% |
|  |
| * **Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)**: Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education. Excludes “Sales Engineers” (41-9031). |
| Entry-Level Educational Requirement: Bachelor's degree |
| Training Requirement: Moderate-term on-the-job training |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 31% |
|  |

|  |
| --- |
| * **Construction** **and Building Inspectors (SOC 47-4011):** Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing. |
| Entry-Level Educational Requirement: High *school* diploma *or equivalent* |
| Training Requirement: Moderate-term *on-the-job training* |
| Percentage of Community College Award Holders *or Some Postsecondary Coursework: 45%* |

**Occupational Demand**

**Table 1. Employment Outlook for High** **Performance Building Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Business Operations Specialists, All Other / Project Management Specialists and Business Operations Specialists, All Other | 62,537 | 66,741 | 4,204 | 7% | 35,263 | 7,053 | $29.99 | $41.45 |
| Miscellaneous Construction and Related Workers | 573 | 643 | 70 | 12% | 449 | 90 | $19.02 | $29.00 |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 15,980 | 17,070 | 1,089 | 7% | 9,857 | 1,971 | $31.87 | $46.15 |
| Construction and Building Inspectors | 3,235 | 3,445 | 210 | 7% | 2,269 | 454 | $34.84 | $47.43 |
| **TOTAL** | **82,326** | **87,899** | **5,573** | **7%** | **47,837** | **9,568** | **$30.30** | **$42.31** |

*Source: EMSI 2020.3*

**Bay Region includes**: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 2. Employment Outlook for High** **Performance Building Occupations in East Bay Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Business Operations Specialists, All Other / Project Management Specialists and Business Operations Specialists, All Other | 16,572 | 17,119 | 546 | 3% | 8,643 | 1,729 | $28.03 | $37.95 |
| Miscellaneous Construction and Related Workers | 173 | 195 | 21 | 12% | 135 | 27 | $18.41 | $29.28 |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 2,764 | 2,785 | 21 | 1% | 1,514 | 303 | $30.51 | $40.18 |
| Construction and Building Inspectors | 944 | 1,003 | 59 | 6% | 659 | 132 | $37.20 | $47.06 |
| **TOTAL** | **20,454** | **21,102** | **648** | **3%** | **10,951** | **2,190** | **$28.29** | **$38.19** |

*Source: EMSI 2020.3*

**East Bay Sub-Region includes:** Monterey, San Benito, and Santa Cruz Counties

### Job Postings in Bay Region and East Bay Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (October 2019 - September 2020)**

| Occupation | Bay Region | East Bay Sub-Region |
| --- | --- | --- |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 3,770 | 761 |
| Solar Sales Representatives and Assessors | 663 | 288 |
| Energy Auditors | 166 | 63 |
| Construction and Building Inspectors | 463 | 174 |
| Weatherization Installers and Technicians | 13 | 6 |
| **TOTAL** | **5,075** | **1,292** |

*Source: Burning Glass*

**Table 4a. Top Job Titles for High** **Performance Building Occupations for latest 12 months (October 2019 - September 2020) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Medical Sales | 173 | Market Sales Manager | 23 |
| Solar Sales Consultant | 128 | Solar Advisor | 22 |
| Solar Sales Advocate | 94 | Healthcare Sales Account Liaison - Hospice Sales And Marketing | 22 |
| Sales Executive Fiber | 68 | Regional Sales Executive | 21 |
| Enterprise Sales Executive | 67 | Solar Consultant | 20 |
| Construction Inspector | 65 | Building Inspector | 21 |
| Technical Sales Representative | 56 | Software Sales Representative | 20 |
| Solar Sales Representative | 53 | Senior Sales Manager | 20 |
| Retail Solar Sales Advocate | 49 | Remote Outside Sales Executive | 20 |
| Inspector | 49 |  |  |
| Medical Sales Representative | 46 | Home Health Sales Representative | 20 |
| Sales Manager | 37 | Solar Sales Advocate In , | Careers At Sunrun | 19 |
| Pharmaceutical Sales Representative | 33 | Inside Sales Representative | 19 |
| Territory Sales Executive | 28 | Division Sales Manager | 19 |
| National Domestic Freight Sales Executive | 26 | Clinical Sales Representative | 17 |
| Technical Sales Specialist | 25 |  |  |

**Table 4b. Top Job Titles for High** **Performance Building Occupations for latest 12 months (October 2019 - September 2020) East** **Bay Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | East Bay | Common Title | East Bay |
| Medical Sales | 75 | Mobile Sales Expert | 8 |
| Solar Sales Consultant | 73 | Solar Sales Advocate In , | Careers At Sunrun | 7 |
| Sales Executive Fiber | 50 | Solar Advisor | 7 |
| Solar Sales Advocate | 39 | Inside Solar Sales Consultant | 7 |
| Construction Inspector | 36 | Energy Consultant | 7 |
| Solar Sales Representative | 23 | Clinical Sales Representative | 7 |
| Retail Solar Sales Advocate | 21 | Territory Sales Executive | 6 |
| Inspector | 20 |  |  |
| Building Inspector | 17 | Remote Outside Sales Executive | 6 |
| National Domestic Freight Sales Executive | 16 | Pharmaceutical Sales Representative | 6 |
| Technical Sales Representative | 13 | ICC Certified Building Inspector | 6 |
| Technical Sales Specialist | 12 | Technical Sales Estimator | 5 |
| Inside Sales Representative | 12 | Building Inspector | 5 |
| Solar Consultant | 10 | Solar Sales | 5 |
| Medical Sales Representative | 10 | Solar Energy Consultant | 5 |
| Solar Sales Representative K - K | 8 |  |  |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring High** **Performance Building Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2019) | Jobs in Industry (2024) | % Change (2019-24) | % Occupation Group in Industry (2019) |
| Supermarkets and Other Grocery (except Convenience) Stores (445110) | 3,809 | 3,798 | 0% | 4% |
| Federal Government, Civilian, Excluding Postal Service (901199) | 3,776 | 3,657 | -3% | 4% |
| Custom Computer Programming Services (541511) | 3,562 | 4,213 | 18% | 4% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 3,382 | 3,468 | 3% | 4% |
| Local Government, Excluding Education and Hospitals (903999) | 2,218 | 2,308 | 4% | 2% |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 2,176 | 2,677 | 23% | 2% |
| Software Publishers (511210) | 2,155 | 2,620 | 22% | 2% |
| Family Clothing Stores (448140) | 2,066 | 1,994 | -3% | 2% |
| Computer Systems Design Services (541512) | 1,974 | 2,217 | 12% | 2% |
| Warehouse Clubs and Supercenters (452311) | 1,858 | 2,172 | 17% | 2% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 1,693 | 1,649 | -3% | 2% |
| Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715) | 1,616 | 1,680 | 4% | 2% |
| Department Stores (452210) | 1,590 | 1,097 | -31% | 2% |
| State Government, Excluding Education and Hospitals (902999) | 1,483 | 1,562 | 5% | 2% |

*Source: EMSI 2020.3*

**Table 6. Top Employers Posting High** **Performance Building Occupations in Bay Region and East Bay Sub-Region (October 2019 - September 2020)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | East Bay |
| Sunrun | 173 | HCR ManorCare | 22 | Sunrun | 65 |
| Thermo Fisher Scientific Inc | 89 | Astrazeneca | 22 | Thermo Fisher Scientific | 17 |
| Dolcera | 75 | Medtronic | 21 | Siemens | 17 |
| IBM | 59 | Golden Valley Energy | 21 | Progressive Freight Inc | 15 |
| Microsoft Corporation | 36 | Splunk | 20 | Freedom Forever | 14 |
| Metagrowth Ventures | 36 | Green Planet Solutions | 18 | American Media Llc | 12 |
| Siemens | 26 | Amazon | 18 | Vivint Solar | 11 |
| Marriott International Inc | 26 | Freedom Forever | 17 | 10X Genomics | 11 |
| Brookdale Senior Living | 26 | Municipal Plan Check Servcs. | 17 | Marriott International Inc | 9 |
| Progressive Freight Inc | 25 | Kindred Healthcare Inc | 16 | Semper Solaris | 8 |
| Iqvia | 25 | Keyence | 15 | Northstar Inc | 8 |
| Google Inc. | 25 | Agiloft | 15 | Horizon Solar Power | 8 |
| Deloitte | 24 | Verizon Communications Inc. | 14 | Stericycle Inc | 7 |
| Danaher Corporation | 24 | Nsys Design Systems | 14 | Lawrence Berkeley National Laboratory | 7 |
| Vivint Solar | 23 | Day Wireless Systems | 14 | Johnson Controls Inc | 7 |
| Nutanix | 23 | American Media Llc | 14 | Wsp | 7 |
| Apricot Solar | 23 |  |  | The Kleinfelder Group | 6 |

*Source: Burning Glass*

# Educational Supply

There is one (1) community college in the Bay Region and East Bay Sub-region issuing 9 awards on average annually (last 3 years ending 2018-19) on TOP 0952.10-Carpentry.

There are six (6) in the Bay Region issuing 286 awards on average annually (last 3 years ending 2016-17) on TOP 0952.00-Construction Crafts Technology. There are no Other Educational Institutions in the East Bay Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

There is one (1) Institution in the Bay Region issuing 7 Bachelor’s Degrees on average annually (last 3 years ending 2016-17) on TOP 0952.00- Construction Crafts Technology. There are no Institutions in the East Bay Sub-Region issuing Bachelor’s Degrees on average annually (last 3 years) on this TOP code.

**Table 7a. Community College Awards on TOP 0952.10-Carpentry in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate Low Unit | Total |
| **Laney** | East Bay | 4 | 5 | 9 |
| **Total Bay Region** | | **4** | **5** | **9** |
| **Total East** **Bay Sub-Region** | | **4** | **5** | **9** |

# Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

**Table 7.b Other Educational Institutions Awards on TOP 0952.00 - Construction Crafts Technology in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| College | Sub-Region | **Award < 1 academic yr** | **Award 1 < 2 academic yrs** | Total |
| CET-Salinas | SC - Monterey | 15 |  | 15 |
| CET-Sobrato | Silicon Valley |  | 75 | 75 |
| CET-Soledad | SC - Monterey |  | 12 | 12 |
| CET-Watsonville | SC - Monterey | 10 | 26 | 36 |
| Institute for Business and Technology | Silicon Valley | 133 |  | 133 |
| InterCoast Colleges-Fairfield | North Bay |  | 15 | 15 |
| **Total Bay Region** | | **158** | **128** | **286** |
| **Total East Bay Sub-Region** | | **0** | **0** | **0** |

# Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

**Table 7c. Bachelor’s Degree Awards on TOP 0952.00 - Construction Crafts Technology in Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| **College** | **Sub-Region** |  | **Bachelor’s Degree** |
| California College of the Arts | Mid-Peninsula |  | 7 |
| **Total Bay Region** | |  | **7** |
| **Total East Bay Sub-Region** | |  | **0** |

# Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

# Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 9,568 annual openings for the High Performance Building occupational cluster and 302 annual (3-year average) awards for an annual undersupply of 9,266 students. In the East Bay Sub-Region, there is also a gap with 2,190 annual openings and 9 annual (3-year average) awards for an annual gap of 2,181 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0952.10-Carpentry**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **2017-18** | **Bay** All CTE Programs | **Laney College** All CTE Programs | **State** 0952.10 | **Bay** 0952.10 | **East** **Bay** 0952.10 | **Laney College** 0952.10 |
| % Employed Four Quarters After Exit | 74% | 63% | 70% | 58% | 49% | 49% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $9,825 | $15,716 | $11,698 | $9,836 | $9,836 |
| Median % Change in Earnings | 46% | 28% | 97% | 37% | 39% | 39% |
| % of Students Earning a Living Wage | 63% | 47% | 75% | 50% | 49% | 49% |

*Source: Launchboard Pipeline (version available on (9/30/20)*

# Skills, Certifications and Education

**Table 9. Top Skills for High** **Performance Building Occupations in Bay Region (October 2019 - September 2020)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skill** | **Postings** | **Skill** | **Postings** | **Skill** | **Postings** |
| Sales | 3,863 | Sales Cycle | 371 | Direct Sales | 262 |
| Technical Sales | 1,151 | Account Management | 369 | Retail Industry Knowledge | 249 |
| Sales Goals | 914 | Project Management | 367 | Sales Planning | 248 |
| Prospective Clients | 909 | Appointment Setting | 344 | Enterprise Sales | 236 |
| Product Sales | 763 | Sales Strategy | 341 | Inside Sales | 234 |
| Customer Service | 702 | Business Planning | 329 | Telecommunications | 233 |
| Sales Management | 636 | Complex Sales | 326 | Customer Relationship Management (CRM) | 220 |
| Business Development | 574 | Negotiation Skills | 312 | Cold Calling | 219 |
| Solar Sales | 568 | Client Base Retention | 304 | Sales Engineering | 218 |
| Outside Sales | 566 | Budgeting | 297 | Pharmaceutical Sales | 213 |
| Customer Contact | 544 | Software as a Service (SaaS) | 297 | Sales Prospecting | 211 |
| Salesforce | 515 | Request for Proposal (RFP) | 289 | Medical Equipment Industry Knowledge | 208 |
| Description and Demonstration of Products | 492 | Business-to-Business | 287 | Technical Presentations | 207 |
| Medical Sales | 471 | Sales Calls | 285 | Business Acumen | 205 |
| Scheduling | 410 | Articulating Value Propositions | 281 | Construction Inspection | 203 |

*Source: Burning Glass*

**Table 10. Certifications for High** **Performance Building Occupations in Bay Region (Oct. 2019 – Sept. 2020)**

Note: 79% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| **Certification** | **Postings** | **Certification** | **Postings** |
| Driver's License | 900 | Photovoltaic (PV) Installer Certification | 10 |
| IT Infrastructure Library (ITIL) Certification | 38 | Insurance Agent Certification | 9 |
| Board Certified/Board Eligible | 23 | Mortgage License | 9 |
| Certified Information Systems Security Professional (CISSP) | 22 | Life Insurance License | 9 |
| Cdl Class C | 21 | Real Estate Certification | 8 |
| Security Clearance | 20 | Insurance License | 8 |
| Welding Certification | 20 | Certified Information Systems Auditor (CISA) | 8 |
| Certified Building Inspector | 17 | Certified Information Security Manager (CISM) | 8 |
| Project Management Certification | 16 | CompTIA Advanced Security Practitioner | 8 |
| Clia Certified | 15 | Certified Cargo Security Professional | 7 |
| North American Board of Energy Practitioners (NABCEP) | 14 | Series 7 | 6 |
| Certified Welding Inspector (CWI) | 14 | Securities License | 6 |
| Radiation Safety Certification | 14 | Leadership In Energy And Environmental Design (LEED) Certified | 6 |
| American Concrete Institute (ACI) | 12 | Contractors License | 6 |
| Certified Energy Manager | 11 | American Society for Nondestructive Testing (ASNT) Certification | 6 |

*Source: Burning Glass*

**Table 11. Education Requirements for High** **Performance Building Occupations in Bay Region**

Note: 45% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |  |
| --- | --- | --- |
| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **Percent 12 Mos. Postings** |
| High school or vocational training | 307 | 12% |
| Associate Degree | 64 | 3% |
| Bachelor’s Degree or Higher | 2,087 | 85% |

*Source: Burning Glass*

# Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor’s Office MIS system

# Contacts

For more information, please contact:

* Doreen O’Donovan, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), [doreen@baccc.net](mailto:doreen@baccc.net) or (831) 479-6481
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, [jcarrese@ccsf.edu](mailto:jcarrese@ccsf.edu) or (415) 267-6544