

Environmental Engineering Technicians

Labor Market Analysis: San Diego-Imperial Region

February 2018

Summary

This report was produced for Imperial County; however, due to insufficient data in the labor market, the greater San Diego-Imperial Region was used for analysis. The following list summarizes findings from the labor market analysis below for *Environmental Engineering Technicians*:

- There is insufficient data for Imperial County to determine labor market demand for *Environmental Engineering Technicians*; however, when analyzing data in the greater San Diego-Imperial Region between 2017 and 2022, *Environmental Engineering Technicians* are projected to increase by 16 jobs or six percent.
- Employers in the San Diego-Imperial Region will need to hire 28 workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.
- Between 2010 and 2017, there was an average of three online job postings per year for *Environmental Engineering Technicians* in the San Diego-Imperial Region.
- There is insufficient data for Imperial County, however, when analyzing the greater San Diego-Imperial Region, *Environmental Engineering Technicians* earn median hourly earnings of \$30.00, more than the Self-Sufficiency Standard for two adults and two children (school-age) in Imperial County, which is \$11.32 per hour.
- According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, three colleges supply the region with an annual average of 35 awards for this occupation: Cuyamaca College, MiraCosta College and Southwestern College.
- Comparing labor demand (annual openings) with labor supply suggests that there is an oversupply for this occupation in the San Diego-Imperial Region, with 28 annual openings and 35 awards. Comparatively, there are 261 annual openings in California and 96 completions. There are zero awards in Imperial County; however, there is insufficient labor market data to determine if there is a supply gap in Imperial County.
- Between January 1, 2015 and December 31, 2017, the top employers in the San Diego-Imperial Region for this occupation were County of San Diego, Vista Outdoor and San Diego County District Attorney.
- The typical entry-level education is an associate degree.

Introduction

This report provides labor market information in the San Diego-Imperial Region for the following occupational code in the Standard Occupational Classification (SOC)¹ system:

Environmental Engineering Technicians (SOC 17-3025): Apply theory and principles of environmental engineering to modify, test and operate equipment and devices used in the prevention, control and remediation of environmental problems, including waste treatment and site remediation, under the direction of engineering staff or scientist. May assist in the development of environmental remediation devices. Sample reported job titles include:

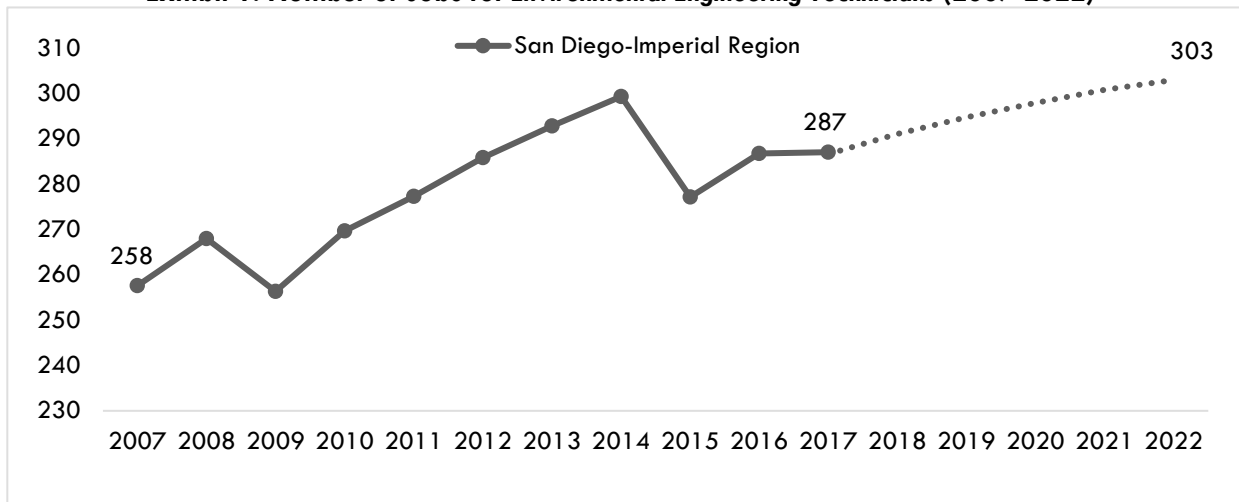
- Environmental Technician
- Senior Environmental Technician
- Industrial Waste Inspector
- Hazardous Technician
- Environmental Specialist
- Environmental Field Technician
- Environmental Engineering Technician
- Environmental Engineering Assistant
- Engineering Technician
- Engineer Technician

Projected Occupational Demand

There is insufficient data for Imperial County to determine labor market demand for *Environmental Engineering Technicians*; however, when analyzing data in the greater San Diego-Imperial Region between 2017 and 2022, *Environmental Engineering Technicians* are projected to increase by 16 jobs or six percent (Exhibit 1). Employers in the San Diego-Imperial Region will need to hire 28 workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc).

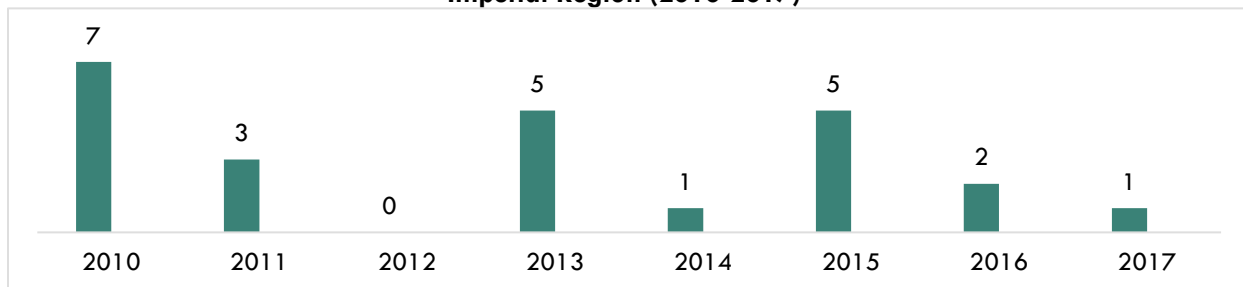
Exhibit 1: Number of Jobs for Environmental Engineering Technicians (2007-2022)²



Online Job Postings

Between 2010 and 2017, there was an average of **three** online job postings per year for *Environmental Engineering Technicians* in the San Diego-Imperial Region (Exhibit 3).

Exhibit 3: Number of Online Job Postings for Environmental Engineering Technicians in the San Diego-Imperial Region (2010-2017)³



Earnings

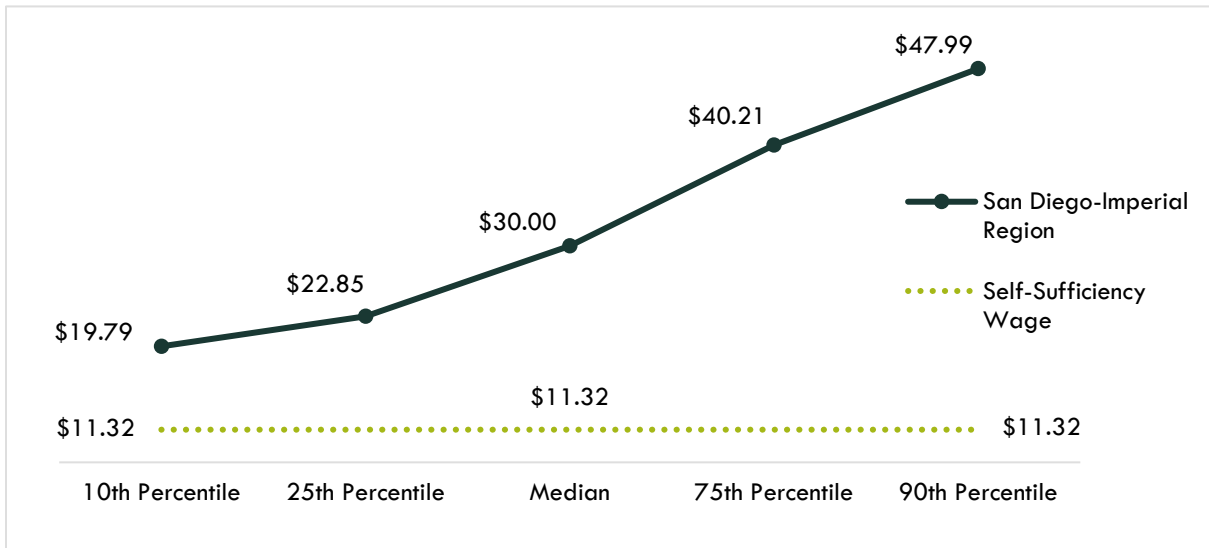
There is insufficient data for Imperial County, however, when analyzing the greater San Diego-Imperial Region, *Environmental Engineering Technicians* earn median hourly earnings of **\$30.00**, more than the Self-Sufficiency Standard for two adults and two children (school-age) in Imperial County, which is \$11.32 per hour (Exhibit 4).⁴

² Economic Modeling Specialists, Int'l. (EMSI). San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW+ Self-Employed. 2007-2022.

³ Labor Insight Jobs. Burning Glass Technologies. Imperial, CA. San Diego, CA. Full years 2010-2017.

⁴ The standard for two adults and two children was chosen due to the 3.68 persons per household (2012-2016) as determined by the U.S. Census for Imperial County.

Exhibit 4: Hourly Earnings for Environmental Engineering Technicians in the San Diego-Imperial Region⁵



Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of related program completers/graduates/awards in Imperial County. To determine what programs are available, Exhibit 5 lists the Taxonomy of Programs (TOP) code(s) related to the SOC code analyzed.

Exhibit 5: Related TOP Codes in the San Diego-Imperial Region

SOC 17-3025: Environmental Engineering Technicians

030300 Environmental Technology

According to the California Community Colleges Chancellor’s Office Management Information System (MIS) Data Mart, **three** colleges supply the region with awards for this occupation: Cuyamaca College, MiraCosta College and Southwestern College (Exhibit 6).

Exhibit 6 shows the annual average regional community college awards (associate degrees and certificates) conferred during the three academic years between 2013 and 2016, as well as other awards granted outside the California Community Colleges from 2012 to 2015, with the relevant TOP code.

⁵ EMSI. San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

Please note: An award is not equivalent to a single person in search of a job opening because a student may earn more than one award such as an associate degree in addition to a certificate.

Exhibit 6: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions by Occupation (Program Year 2012-13 through PY2015-16 Average)

TOP06	TOP06 Title	3-Yr Annual Average CC Awards (PY13-14 to PY15-16)	Other Educational Institutions 3-Yr Annual Average Awards (PY12-13 to PY14-15)	3-Yr Total Average Supply (PY12-13 to PY15-16)
030300	Environmental Technology	35	0	35
	• Cuyamaca College	30	0	30
	• MiraCosta College	0	0	0
	• Southwestern College	5	0	5

*Total number of awards may not add up exactly due to rounding.

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply⁶ suggests that there is an **oversupply** for this occupation in the San Diego-Imperial Region, with **28** annual openings and **35** awards. Comparatively, there are **261** annual openings in California and **96** completions.⁷ There are zero awards in Imperial County; however, there is insufficient labor market data to determine if there is a supply gap in Imperial County (Exhibit 7).

Exhibit 7: Labor Demand (Annual Openings) Compared to Labor Supply (Average Annual Awards)

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or Oversupply
Imperial County	Insufficient Data	0	-
San Diego-Imperial Region	35	28	7
California	261	96	165

⁶ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

⁷ EMSI. San Diego County (6073); Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

Please note: This is a basic analysis of supply and demand of labor for these occupations. This data should be used to discuss the potential gaps or oversupply of workers for these occupations; however, it should not be the only basis for determining whether or not a program should be developed. Additionally, the data does not include workers who are currently in the labor force who could fill these positions or workers who are not captured by publicly available data.

Student Outcomes

Based on the information available in the CTE LaunchBoard,⁸ students who took courses in the related TOP code exhibited the following outcomes (Exhibit 8).

Exhibit 8: Strong Workforce Program Metrics for TOP 030300 Environmental Technology PY2014-15

Metric	San Diego-Imperial	California
Number of course enrollments ⁹	378	4,385
Number of students who got a degree or certificate ¹⁰	20	58
Number of students who transferred ¹¹	2	51
Employed in the second fiscal quarter after exit ¹²	61%	67%
Employed in the fourth fiscal quarter after exit ¹³	63%	66%
Job closely related to field of study ¹⁴	N/A	N/A
Median earnings in the second fiscal quarter after exit ¹⁵	\$13,136	\$15,045
Median change in earnings ¹⁶	32%	25%
Attained a living wage ¹⁷	82%	70%

⁸ calpassplus.org/LaunchBoard/SWP.aspx.

⁹ The number of enrollments in courses assigned to the TOP code in the selected year.

¹⁰ The number of unduplicated students who earned a locally-issued certificate, Chancellor's Office approved certificate, associate degree, and/or California Community Colleges bachelor's degree in the selected TOP code.

¹¹ Students who took non-introductory courses or completed a California Community Colleges Chancellor's Office award in the selected TOP code in selected year who subsequently enrolled for the first time in a four-year institution the following year.

¹² Among all exiters with a valid SSN, the percentage who were employed two quarters after exiting California Community Colleges.

¹³ Among exiting students with a valid SSN, the percentage who were employed four quarters after exiting California Community Colleges.

¹⁴ Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

¹⁵ Among exiting students, the median second-quarter earnings one year after the year in which they exited California Community Colleges.

¹⁶ Among exiting students with a valid SSN, the percentage change in earnings one year before and one year after exiting California Community Colleges.

¹⁷ Among completers and skills-builders who exited, the proportion of students who attained a living wage.

Top Employers and Work Locations

Between January 1, 2015 and December 31, 2017, the top employers in the San Diego-Imperial Region for this occupation were **County of San Diego, Vista Outdoor and San Diego County District Attorney** (Exhibit 9).

Exhibit 9: Top Employers in San Diego-Imperial Region for *Environmental Engineering Technicians*

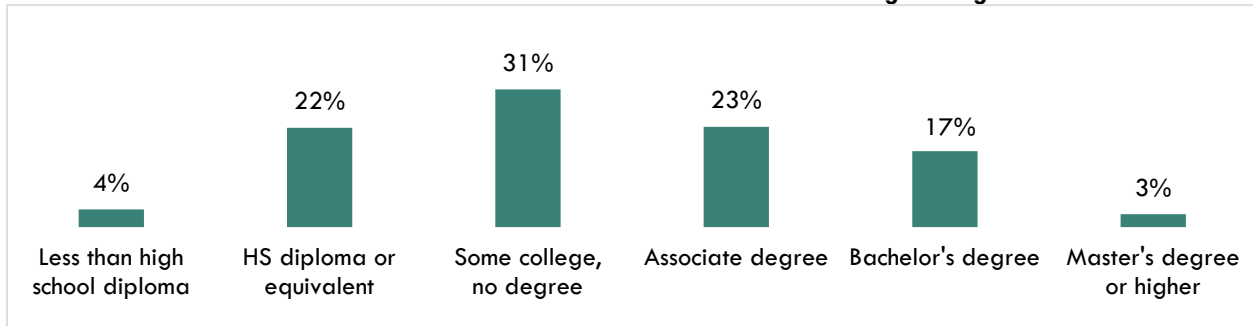
Top Employers

- County of San Diego
- Vista Outdoor
- San Diego County District Attorney

Skills, Education and Certifications

Exhibit 10 indicates the educational attainment for the occupation found currently in the national labor force. There is no typical on-the-job training for this occupation. The typical entry-level education is an **associate degree**.¹⁸

Exhibit 10: National Educational Attainment of *Environmental Engineering Technicians*¹⁹



¹⁸ EMSI. San Diego County (6073) Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

¹⁹ Bureau of Labor Statistics, Educational attainment for workers 25 years and older by detailed occupation. [bls.gov/emp/ep_table_111.htm](https://www.bls.gov/emp/ep_table_111.htm)

Exhibit 11 lists the top specialized and soft skills that appeared in online job postings for between January 1, 2015 and December 31, 2017.

Exhibit 11: Top Skills for Environmental Engineering Technicians in the San Diego-Imperial Region²⁰

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> • Environmental Health & Safety • Algebra • Biology • Calculator • Chemistry • Environmental Science • Microbiology • Physics • Surveillance 	<ul style="list-style-type: none"> • Communication Skills • Computer Skills • Detail-Oriented • Organizational Skills • Physical Demand • Positive Disposition • Service Improvement • Team Work/ Collaboration 	<ul style="list-style-type: none"> • Microsoft Vista • Sharepoint Portal Server

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²⁰ Labor Insight Jobs. Burning Glass Technologies. Imperial, CA. San Diego, CA. Full years 2015-2017.