

City of San Diego Climate Action Plan Monitoring Report

"Green" Jobs – 2020

Addressing climate change has created an opportunity for San Diego to support our environment while also boosting our economy. The CAP's five strategies could impact certain industry groupings in San Diego's job market. Each will ideally have a positive impact on the local and regional economy. Jobs in the fields related to the CAP strategies were estimated and industry reports from related fields were also consulted to estimate a baseline from which to measure future progress.

Utilizing data from the Bureau of Labor Statistics (BLS), 74 industries in San Diego County were categorized into the five CAP strategies. These results are presented in Figure 1, showing the total jobs and cumulative growth rates for each group by year.

The BLS estimate of San Diego's jobs in the industry groups related to the CAP grew 20.3 percent from 2010 to 2019, adding 24,156 jobs. The Energy and Water Efficient Buildings group contributed nearly 71 percent of the cumulative job growth. Between 2018 and 2019, the five CAP-related industry groups added 2,144 jobs, an increase of 1.5 percent. More than four out of five new jobs came from the Energy and Water Efficient Buildings group, which grew by 2.2 percent in 2019. Meanwhile, the Clean and Renewable Energy group shed 273 jobs in 2019, down 1.0 percent. Data sources and raw figures can be found in Appendix A.

According to the Cleantech Industry Cluster Economic Impact Analysis conducted by the San Diego Regional Economic Development Corporation, the San Diego region's Cleantech Industry Cluster added 278 jobs in 2019, an increase of 2.9 percent. Regional employment concentration in the cluster remains more than double the national average. Furthermore, earnings and average wages increased in 2019.¹

According to a separate report by The Solar Foundation's 2019 National Solar Jobs Census, solar installations employment declined again in 2019 both in California and in San Diego, with 152 jobs being shed in the region.² Despite these declines, overall solar job growth continues to rise nationwide and California remains home to the largest number of solar jobs with more than 74,000 jobs.

¹ The San Diego Regional Economic Development Corporation's Cleantech Industry Cluster Economic Impact Analysis, November 2020

² [The Solar Foundation's 2019 National Solar Jobs Census](#)

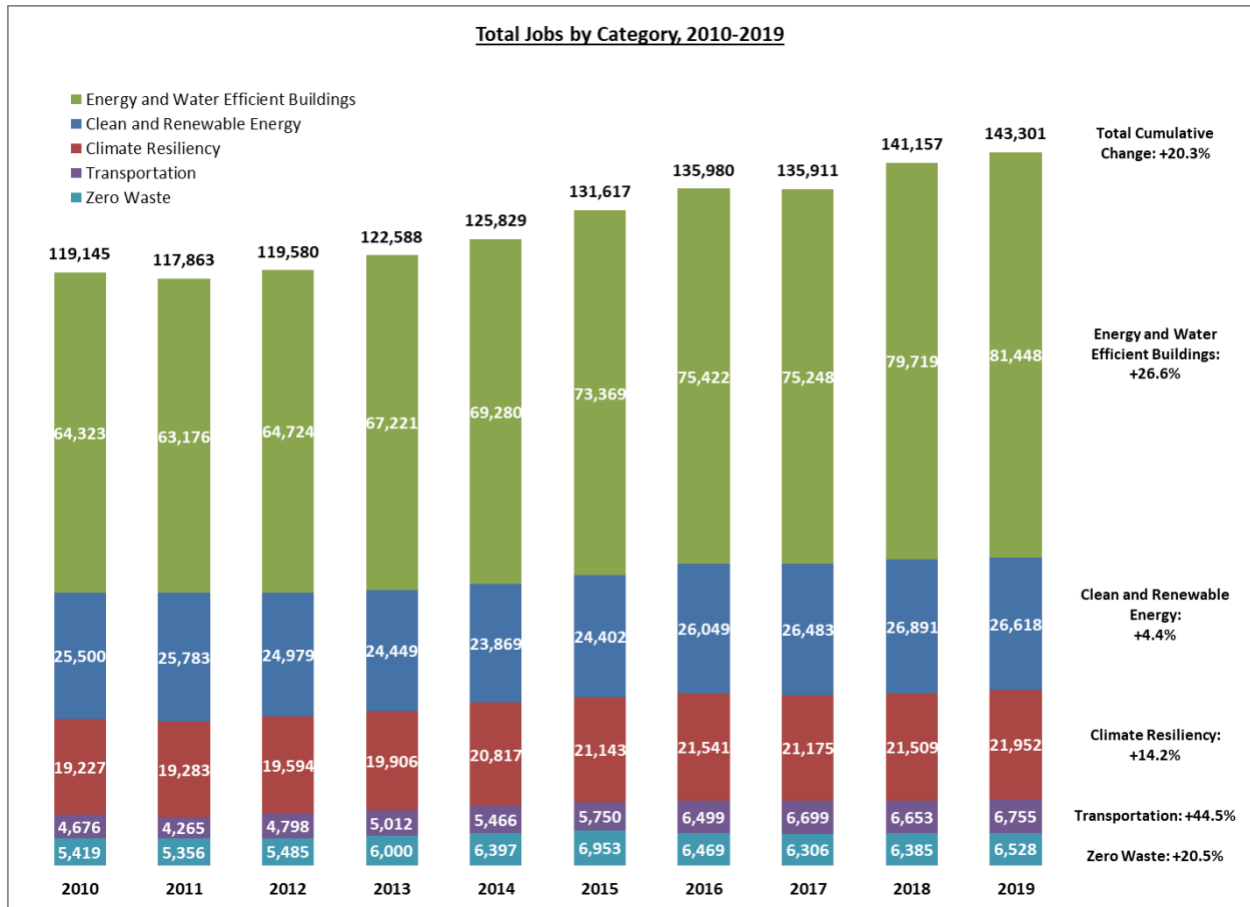


Figure 1: Estimated Total San Diego Jobs by CAP Category, 2010-2019.

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“Green” Jobs – Appendix A

Economic Modeling Specialists International (Emsi, 2020.4) www.economicmodeling.com

Summary: Emsi identifies 1,000+ industries within the San Diego Region. Seventy-four industries were categorized into five CAP industry groups and grouped within Emsi. From those groups, Emsi output the jobs per occupations in the total of all the industries identified per CAP industry group during 2010-19. These job totals were then used to identify the growth per CAP industry group between 2010 and 2019.

In order to identify a baseline of total jobs within the CAP strategies over the past five years, first the industries that corresponded with each CAP industry group were identified (Table 1). No one industry was categorized into multiple CAP industry groups. Overall, 74 industries were categorized into the five industry groups; 20 industries in Energy and Water Efficient Buildings, 21 industries in Clean and Renewable Energy, eight industries in Climate Resiliency, 13 industries in Transportation and 12 industries in Zero Waste. The occupations within the corresponding CAP industry groups were identified and then the individual jobs within these occupations were totaled for each year between 2010 and 2019.

Industry Data: Emsi industry data have various sources depending on the class of worker. (1) For QCEW Employees, Emsi primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

This report uses state data from the following agencies: California Labor Market Information Department, U.S. Bureau of Labor Statistics. This report uses state data from the following agencies: California Labor Market Information Department.

Table 1: Industries within Each CAP Industry Group

Energy and Water Efficient Buildings	Clean and Renewable Energy	Climate Resiliency	Transportation	Zero Waste
Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	Biomass Electric Power Generation	Environment, Conservation and Wildlife Organizations	All Other Transit and Ground Passenger Transportation	All Other Miscellaneous Waste Management Services
Architectural Services	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	Forest Nurseries and Gathering of Forest Products	Bus and Other Motor Vehicle Transit Systems	Hazardous Waste Collection
Automatic Environmental Control Manufacturing for Residential, Commercial and Appliance Use	Electric Bulk Power Transmission and Control	Landscape Architectural Services	Commuter Rail Systems	Hazardous Waste Treatment and Disposal
Building Inspection Services	Electric Power Distribution	Landscaping Services	Highway, Street and Bridge Construction	Materials Recovery Facilities
Commercial and Institutional Building Construction	Electrical Contractors and Other Wiring Installation Contractors	Sewage Treatment Facilities	Interurban and Rural Bus Transportation	Other Nonhazardous Waste Treatment and Disposal
Engineering Services	Environmental Consulting Services	Soil Preparation, Planting and Cultivating	Mixed Mode Transit Systems	Other Waste Collection
Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing	Geothermal Electric Power Generation	Water and Sewer Line and Related Structures Construction	Other Support Activities for Road Transportation	Recyclable Material Merchant Wholesalers
Industrial Building Construction	Hydroelectric Power Generation	Water Supply and Irrigation Systems	Other Urban Transit Systems	Remediation Services
Industrial Design Services	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals		Rail transportation	Solid Waste Collection
New Housing For-Sale Builders	Mechanical Power Transmission Equipment Manufacturing		School and Employee Bus Transportation	Solid Waste Combustors and Incinerators
New Multifamily Housing Construction (except For-Sale Builders)	Natural Gas Distribution		Support Activities for Rail Transportation	Solid Waste Landfill
New Single-family Housing Construction (except For-Sale Builders)	Nuclear Electric Power Generation		Taxi Service	Used Merchandise Stores
Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	Other Electric Power Generation		Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	
Plumbing, Heating and Air-Conditioning Contractors	Pipeline Transportation of Natural Gas			

Relay and Industrial Control Manufacturing	Power and Communication Line and Related Structures Construction			
Research and Development in the Physical, Engineering and Life Sciences (except Biotechnology)	Power, Distribution and Specialty Transformer Manufacturing			
Residential Electric Lighting Fixture Manufacturing	Semiconductor and Related Device Manufacturing			
Residential Remodelers	Solar Electric Power Generation			
Steam and Air-Conditioning Supply	Storage Battery Manufacturing			
Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	Turbine and Turbine Generator Set Units Manufacturing			
	Wind Electric Power Generation			

Table 2: Number of Jobs/Industry per CAP Industry Group, 2010-2019

	Clean & Renewable Energy	Climate Resiliency	Energy & Water Efficient Buildings	Transportation	Zero Waste
2010	25,500	19,227	64,323	4,676	5,419
2011	25,783	19,283	63,176	4,265	5,356
2012	24,979	19,594	64,724	4,798	5,485
2013	24,449	19,906	67,221	5,012	6,000
2014	23,869	20,817	69,280	5,466	6,397
2015	24,402	21,143	73,369	5,750	6,953
2016	26,049	21,541	75,422	6,499	6,469
2017	26,483	21,175	75,248	6,699	6,306
2018	26,891	21,509	79,719	6,653	6,385
2019	26,618	21,952	81,448	6,755	6,528

Table 3: Percent Change in Jobs, 2011-2019

	Clean & Renewable Energy	Climate Resiliency	Energy & Water Efficient Buildings	Transportation	Zero Waste
2010-11	1.1%	0.3%	-1.8%	-8.8%	-1.2%
2011-12	-3.1%	1.6%	2.5%	12.5%	2.4%
2012-13	-2.1%	1.6%	3.9%	4.5%	9.4%
2013-14	-2.4%	4.6%	3.1%	9.1%	6.6%
2014-15	2.2%	1.6%	5.9%	5.2%	8.7%
2015-16	6.7%	1.9%	2.8%	13.0%	-7.0%
2016-17	1.7%	-1.7%	-0.2%	3.1%	-2.5%
2017-18	1.5%	1.6%	5.9%	-0.7%	1.3%
2018-19	-1.0%	2.1%	2.2%	1.5%	2.2%
2010-19	4.4%	14.2%	26.6%	44.5%	20.5%