



SAN DIEGO'S CLEANTECH CLUSTER

A pioneer in renewable energy, San Diego's clean technology cluster is second to none. San Diego is one of the nation's top locations for research and development in engineering, life sciences and biotechnology, which are critical to the success of the cleantech cluster. Another key strength lies in San Diego's partnership with its neighbor to the east, Imperial County, which provides cost-effective facilities for companies that ready for production and commercialization. This combination of intellectual and physical capital makes the region one of the most competitive landscapes in the country for cleantech companies.

In 2016, the region ranked #3 in the nation for cleantech leadership.¹ Continued growth in markets such as solar, wind, energy efficiency, storage and electric vehicles has elevated San Diego as a leader in the climate action and smart cities movements. With a commitment to innovation, sustainability and collaboration that includes everyone from technology companies and academia to local government and the military, San Diego continues to lead in the development and adoption of clean technologies.

HIGHLIGHTS

- » **SD employment > US:** San Diego employs 2.6 times as many people in cleantech as the national average.²
- » **Go solar:** San Diego ranks #2 in the nation for solar installations, with 303 megawatts of installed solar capacity - enough to power nearly 76,000 homes.³
- » **Smart SD:** Smart Cities Summit named San Diego's Smart City Solutions one of the world's top 10 smart city projects.⁴
- » **On-site production:** San Diego ranks #9 nationally in green power production, with more than 51 million kilowatt-hours produced annually.⁵

KEY COMPANIES

- | | | |
|--------------------|-------------------|----------------------------|
| » Broadcom Limited | » General Atomics | » Peregrine Semiconductor |
| » Cohu | » Iberdrola Group | » San Diego Gas & Electric |
| » CP Group | » Kyocera Solar | |
| » Cymer | » MaxLinear | |



INNOVATION



MILITARY



TOURISM



LOCAL



INTELLECT

SPOTLIGHT

Transpower

TransPower is an Escondido-based company that offers a broad range of products and services in advanced clean transportation and energy storage. TransPower's flexibly designed systems utilize different types of batteries, motors, and other components to meet the requirements of different vehicles and stationary sites. Its ElecTruck™ system is a market leader for heavy-duty vehicles, including yard tractors, port cargo handling vehicles, and school buses, as well as the largest Class 8 on-road trucks that weigh more than 33,000 lbs
transpowerusa.com



RESOURCES

California Center for Sustainable Energy

CCSE is an independent nonprofit that helps residents, businesses and public agencies save energy, reduce grid demand and generate their own power through a variety of rebate, technical assistance and education programs.
energycenter.org

Cleantech San Diego

Cleantech San Diego is a nonprofit member organization that positions the greater San Diego region, including Imperial County and Baja California, as a global leader in the cleantech economy.
cleantechsandiego.org

Energy Policy Initiatives Center

EPIC is a nonprofit academic and research center of the University of San Diego School of Law that studies energy policy issues affecting San Diego and California.
sandiego.edu/law/center/epic

BY THE NUMBERS

Employment Numbers

In 2016, the cleantech cluster was responsible for **5,943** direct jobs and supported an additional **7,950** jobs in the region. Key occupations in cleantech have experienced an overall job growth of 9.3 percent since 2011. With a concentration that is 1.4 times that of the nation, electrical and electronic equipment assemblers is the most concentrated cleantech occupation.⁶

Employment by Type of Economic Effect
San Diego Region



Employment by Key Industries in the Cleantech Cluster⁶

Industry	Employment	Establishments
Hydroelectric Power Generation*	0	0
Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	866	21
Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	1,002	456
Remediation Services	514	33
Environmental Consulting Services	212	119
Industrial Design Services	206	31
Other Commercial and Service Industry Machinery Manufacturing	423	23
Other Scientific and Technical Consulting Services	1,741	1,713
Other Shared Industries within Cluster	979	181
Total	5,943	2,577

*According to InfoGroup, there are currently no firms with a primary NAICS code for Hydroelectric Power Generation (221111) in San Diego County, however, should any firms began operations in the future, EDC believes this is an important industry to include in the cleantech cluster.

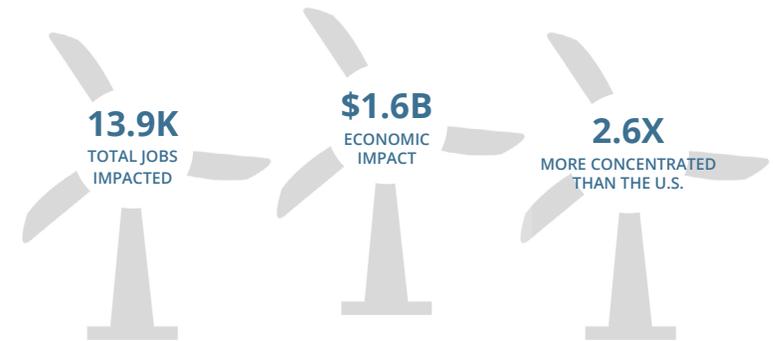
Sources: Introduction: 1. Clean Edge, "2016 U.S. Clean Tech Leadership Index", 2016 | Highlights: 2. San Diego Regional EDC, Cleantech Study with data from IMPLAN, EMSI, Census Bureau, BEA, Infogroup, CA LMI Department, 2016 3. Environment California Research & Policy Center, "Shining Cities 2017: How Smart Local Policies Are Expanding Solar Power in America", 2016 4. Cleantech San Diego, "The World's Top 10 Smart City Projects", 2015 5. United States Environmental Protection Agency, "Green Power Partnership Top 30 On-site Generation", 2017 | By the numbers: 6. San Diego Regional EDC, Cleantech Study with data from IMPLAN, EMSI, Census Bureau, BEA, Infogroup, CA LMI Department, 2016

Our Economies

The vitality of San Diego's economy is reliant upon the strength of the region's four economic drivers – innovation, military, tourism and local.

The cleantech cluster is an important part of the region's innovation economy. In 2016, the innovation economy was responsible for more than XX percent of the region's total jobs.

Economic Impact of San Diego's Cleantech Cluster



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