

Digest of Green Reports and Studies

Title	<u>Clean Technology & the Green Economy: Growing Products, Services, Businesses & Jobs in California's Value Network - DRAFT</u>
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URL	http://www.labor.ca.gov/panel/pdf/DRAFT_Green_Economy_031708.pdf
Summary	<p>Note: This report is still in draft. Feedback from forums will be incorporated into the final report.</p> <p>The monograph's primary objective is to help define California's green economy and provide state government policy leaders with answers to questions about what makes up the green economy, what jobs are being created, and what economic policy issues need to be addressed.</p> <p>Nationally and globally, attentions are focusing on rising energy costs, questions of national energy security, worry over environmental and related societal threats as well as fears of economic slow-down. These seemingly countervailing crises might suggest that a choice must be made between doing what is good for the environment <i>OR</i> doing what is good for the economy. California's green economy demonstrates that this is not the case. California's green economy is not about a handful of new industries struggling in under-developed markets. Instead, it is about the potential of new technologies combined with innovative public policy and strategic investment to stimulate the growth of new markets for environmentally sound products and services while also reinvigorating slowing markets through the widening application of new technologies across the entire economy.</p> <p>New discoveries and new demand for green technologies are fueling the expansion of business activities across the entire economy to develop in greener ways, offer greener products, and provide services in helping businesses become more resource efficient. As green products and practices permeate the economy, the discussion is no longer about the emergence of a new industry; instead it is about the transformation of the entire economy. This transformation is toward an economy that makes more efficient and sustainable use of our limited natural resources.</p> <p>From an economic and workforce development standpoint, this bears significant meaning. While new technologies require new skills in the workforce, the economy-wide application of these technologies translates into growing job opportunities.</p> <p>From a global competitiveness standpoint, many other countries have more developed green markets and have benefited from robust public investment in R&D. As our local demand for greener products grows, policymakers and business representatives working together can help ensure that California companies are filling local and global demand.</p>
Key Findings	<p>Central Findings:</p> <ul style="list-style-type: none"> • California's green industry is primarily in energy generation and energy efficiency. • In energy generation, activities relating directly to solar make up 64 percent of establishments and 53 percent of employment. • Although distributed across the state, the Bay Area Region and the Southern California Region are the major hubs of activity. • Green building is more concentrated in the Bay Area Region. • Energy storage and energy efficiency are more concentrated in the Southern California Region • Manufacturing accounts for 41 percent of employment and 15 percent of establishments in California's green businesses. • Professional, Scientific & Technical Services accounts for 28 percent of employment and 36 percent of green establishments. • Construction accounts for 10 percent of employment and 19 percent of green establishments.
Recommendations	<p>Recommendations regarding the public sector's role:</p> <ul style="list-style-type: none"> • Technological advancement relies on R&D, and the public sector can play a critical role by investing in R&D through universities and other research institutions. • The public sector can establish industry standards that support the development of new technologies. • Public policy can encourage the adoption of new technologies by offering tax advantages and rebates to help lessen the early entry costs associated with new technology such as with the California Solar Initiative. • The public sector can mandate the types of products and services purchased with public funding such as with vehicle purchases for the California State owned vehicle fleet.

Definition of “Green”	<p>“Green” includes cleantech, a new technology that spans a broad range of products, services and processes that lower performance costs, reduce or eliminate negative ecological impact, and improve the productive and responsible use of natural resources. It also includes other related business activities that either support the wide-spread application of new technologies or apply new technologies as service providers for instance in emissions monitoring; and, specialized business services with a focus on serving the particular needs of green businesses. The report cites the following Cleantech Group, LLC’s green industry segments:</p> <ul style="list-style-type: none"> • Energy Generation • Energy Efficiency • Transportation • Green Building • Energy Storage • Environmental Consulting • Water & Wastewater • Finance/Investment • Environmental Remediation • Air & Environment • Business Services • Research & Alliances • Agriculture • Recycling & Waste • Materials • Manufacturing/Industrial
Methodology	<p>The scope of businesses examined for this study is based roughly on the definition of Cleantech established by the Cleantech Group, LLC™. Cleantech is new technology that spans a broad range of products, services and processes that lower performance costs, reduce or eliminate negative ecological impact, and improve the productive and responsible use of natural resources. In addition to new technology firms, this analysis aims to capture other related business activities that either support the wide-spread application of new technologies such as solar system installations or apply new technologies as service providers for instance in emissions monitoring. In addition, specialized business services are developing with a focus on serving the particular needs of green businesses. Typically, industry analyses examine a sample of business establishments defined by a select set of industry codes such as the North American Industry Classification System (NAICS). For indentifying green businesses; however, these codes do not provide sufficient detail.</p> <p>The research presented is based on a combination of business search through green business associations and other resources as well as data mining the National Establishment Time Series (NETS) database which is based on Dun & Bradstreet data. This data provides establishment-level information, including sole-proprietorships, as well as a relatively detailed industry classification system that while based on Standard Industrial Classification (SIC) system (the predecessor of the North American Industry Classification System (NAICS)), extends the original 4-digit codes to eight digits allowing far greater detail than NAICS. (Tables comparing establishment and employment in NETS with Quarterly Census of Employment and Wages (QCEW) are found in the Appendix).</p> <p>While the results presented cannot claim to account for every single firm working in green technology or related activities, this analysis does provide a first step in assessing the scope of activities in the green economy. Further work will refine the categorization of firms and expand the database through continued research and data mining.</p>
Data Sources Cited	<p>National Establishment Time Series (NETS) database which is based on Dun & Bradstreet data California Employment Development Department, Labor Market Information Division The Cleantech Group, LLC™ US Patent & Trade Office California Integrated Waste Management Board California Department of Finance Clean Edge U.C. Berkeley</p>
Report Geography	<p>California, statewide, with some breakdowns by the Panel’s nine economic regions</p>
Green Occupations Cited	<p>Example Occupations cited:</p> <ul style="list-style-type: none"> • Carpenters • Construction Laborers • Computer Software Engineers, Applications • Truck Drivers, Heavy and Tractor-Trailer • Team Assemblers • Maintenance and Repair Workers, General • First-Line Sup/Mgrs of Construction Trades and Extraction Workers • Electricians

	<ul style="list-style-type: none"> • Plumbers, Pipefitters, and Steamfitters • Business Operations Specialists, All Other • Computer Software Engineers, Systems Software • First-Line Supervisors/Managers of Production and Operating Worker • Management Analysts • Sales Rep, Wholesale and Manufacturing, Technical and Scientific Products • Inspectors, Testers, Sorters, Samplers, and Weighers • First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
Green Industries Cited	<p>Green Industry Segments:</p> <ul style="list-style-type: none"> • Energy Generation • Energy Efficiency • Transportation • Green Building • Energy Storage • Environmental Consulting • Water & Wastewater • Finance/Investment • Environmental Remediation • Air & Environment • Business Services • Research & Alliances • Agriculture • Recycling & Waste • Materials • Manufacturing/Industrial <p>Green establishments (identified using NETS) found in these traditional industry sectors:</p> <ul style="list-style-type: none"> • 21 Mining • 22 Utilities • 23 Construction • 31-33 Manufacturing • 42 Wholesale Trade • 44-45 Retail Trade 54 Professional, Scientific, and Technical Services • 48-49 Transportation and Warehousing • 51 Information • 52 Finance and Insurance • 53 Real Estate and Rental and Leasing • 55 Management of Companies and Enterprises • 56 Administrative and Support and Waste Management and Remediation Services • 62 Health Care and Social Assistance • 71 Arts, Entertainment, and Recreation • 81 Other Services (except Public Administration) • 99 Unclassified
Keywords	Green economy; clean technology; green economy value chain; venture capital; innovation; R&D; research and development; cleantech; occupations; solar; energy generation; energy efficiency; transportation; green building; manufacturing; business services; construction; energy storage; environmental consulting; water & wastewater; environmental remediation; air & environment; agriculture; recycling & waste; economic; workforce development; influencers; green producers; product and service providers; public sector; public policy; end users; California; economic regions.
Legislation Cited	CA AB 32 – California Global Warming Solutions Act (2006) CA AB 3018 – California Green Collar Jobs Act (pending legislation - not yet passed and enrolled) CA AB 1493 – Clean Car Law (2002) CA AB 939 – Integrated Waste Management Act (1989) CA Executive Order S-20-04 – Green Building Initiative (2004) CA SB1 – California Solar Initiative (2007) CA CCR Title 24 – Energy Efficiency Standards for Residential and Nonresidential Buildings CA CCR Title 20 – Energy Efficiency Standards for Appliances 42 USC 17001– Energy Independence and Security Act of 2007 (Title X, Green Jobs)
Bibliography (Y/N)	N – The author uses “Endnotes” instead
Reviewer Name/Org	Janet Maglinte, California Economic Strategy Panel

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