

Digest of Green Reports and Studies

Title	<i>Renewable Energy Demand: A Case Study of California</i>
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Organization	Renewable Energy Policy Project
Author Contact	N/A
Publication Type	Technical Report
Publication Date	2006
# of Pages	15
URL	http://www.apollochallenge.org/CA_JOBS_REPP.pdf
Summary	A national program to develop renewable energy will provide significant benefits to states and regions well beyond where projects are developed. As a national program will benefit the regions and states that have the best renewable resource base (i.e. solar, wind, biomass, and geothermal), it will also create a demand for billions of dollars of manufactured components that support renewable energy technology. With the appropriate economic incentives, this demand for manufactured components can open up new markets for domestic manufacturers that are already manufacturing similar equipment. This report outlines the potential for California from a national commitment to accelerate renewable energy development and produce new markets for potential manufactured components industries.
Key Findings	<p>Major new demand for renewable energy will trickle down to create new demand for the component parts that make up the major renewable energy technologies. California, of all the states, has the greatest potential to generate new manufacturing activity to meet this demand.</p> <p>Nearly 43,000 firms throughout the United States operate in industries related to the manufacturing of components that go into renewable energy systems. This national development would represent nearly \$160.5 billion dollars of manufacturing investment, and would result in more than 850,600 new jobs. California stands to receive nearly 95,600 new jobs and \$20.9 billions dollars of investment in manufacturing components to supply this national development of renewable energy. California is ranked first among states in terms of job gain, and also first for potential investment.</p>
Recommendations	<p>“It is hoped that the Reports will spur interest at the local level to actually identify the specific firms that could benefit from a national program and begin the discussion as to how best to tie reinvigorated domestic manufacturing activity into a national program to develop renewable energy.”</p> <p>“California, by acting early, can influence national action to accelerate climate programs. By virtue of its industrial base, California stands to benefit from the increased demand for renewable technology.”</p> <p>“California can also anticipate bottlenecks (where supply of necessary equipment fails to meet demand) and begin developing the domestic industries that will allow a strong renewable industry to meet climate goals. To capture the potential and avoid bottlenecks will require aggressive investment from the private sector. Public policy and incentives can and should be used to accelerate that action.”</p>
Definition of “Green”	<p>Defining Green Manufacturing Components</p> <p>“In doing so, we must decide what constitutes a major component – for this study we consider a part that would likely be sold by a manufacturer as a single unit, and not the parts that went into that unit further up the supply chain. For example, we consider the gearbox in a wind turbine as a wind, solar PV, geothermal, and biomass generation – we identified the most prevalent modern technology, and then identified the major components that go into each.”</p>
Methodology	<p>This report extends on the “wedge” analysis concept developed by S. Pacala and R. Socolow in the article, “Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies, Science, 13 August 2004, Vol. 305.” This report subsequently assesses the “dispersion of (the) manufacturing of the components of renewable energy systems” by utilizing 3 steps:</p> <ol style="list-style-type: none"> 1. Identify the component parts that make up each renewable energy system. 2. Identify a relevant NAICS code for each manufactured component. 3. Use the CENSUS data to identify potential manufacturing activity. <p>These steps enable the report to assess the economic potential of manufactured components that support renewable energy systems.</p>
Data Sources Cited	U.S. Census Bureau

	Department of Commerce NAICS / SIC
Report Geography	California
Green Occupations Cited	Manufacturing occupations within the cited green industries (wind, solar, geothermal, etc.).
Green Industries Cited	<p>Breakout Results for Santa Clara County</p> <p>Wind</p> <p>NAICS/ NAICS Description</p> <p>335999 Electronic Equipment and Components 333611 Turbines, and Turbine Generators, and Turbine Generator Sets 326199 All Other Plastics Product Manufacturing 334418 Printed circuits and electronics assemblies 334519 Measuring and Controlling Devices 332312 Fabricated Structural Metal 332991 Ball and Roller Bearings 335312 Motors and Generators</p> <p>Solar</p> <p>NAICS/ NAICS Description</p> <p>334413 Semiconductors and Related Devices 335999 Electronic Equipment and Components 334515 Instrument Manufacturing for Measuring and Testing 335931 Current-Carrying Wiring Device Manufacturing 332322 Sheet Metal Work Manufacturing 335313 Switchgear and Switchboard Apparatus Manufacturing 335911 Storage Batteries 326113 Unlaminated Plastics Film and Sheet (Except Packaging) 325211 Plastics Material and Resin Manufacturing</p> <p>Geothermal</p> <p>NAICS/ NAICS Description</p> <p>333611 Turbines, and Turbine Generators, and Turbine Generator Sets 332410 Power Boiler and Heat Exchanger Manufacturing 332420 Metal Tank (Heavy Gauge) Manufacturing 333912 Air and Gas Compressor Manufacturing</p>
Keywords	Renewable energy; photovoltaic; bio-mass steam generators; geothermal technologies; flash steam; binary cycle; turbine-generator; gasification; and anaerobic digestion; solar; wind; geothermal; carbon emissions.
Legislation Cited	"In August 2006 California passed legislation capping the state's CO2 emissions. The legislation stabilizes California's emissions at 1990 levels by 2020; establishes a mandatory emissions reporting program; and establishes a "cap and trade" program allowing businesses to buy and sell emissions rights." This refers to AB 32 The California Global Warming Solutions Act.
Bibliography (Y/N)	No.
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