



# CleanTECH San Diego



# Background

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CleanTECH San Diego was created in 2007 to:

- **Support Job Creation.** Advance and diversify the San Diego region's economic development goals
- **Build a Common Agenda.** Bring together the region's diverse clean technology Stakeholders around a common agenda
- **Prepare for the New Economy.** Help San Diego prepare for and benefit from California's proactive regulatory policies
- **Mission:** Accelerate the San Diego region as a world leader in the clean technology economy

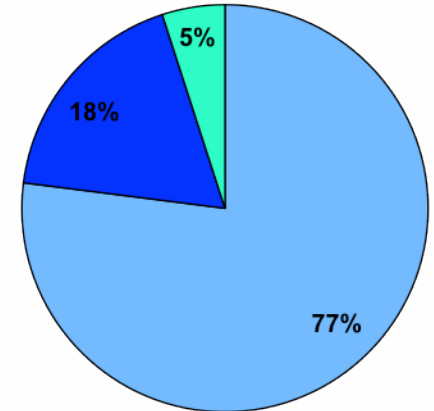
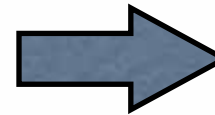


# San Diegans Weigh in on the Environment and the Economy

Study by San Diego Foundation finds that 1 in 10 jobs will be connected to the cleantech sector.

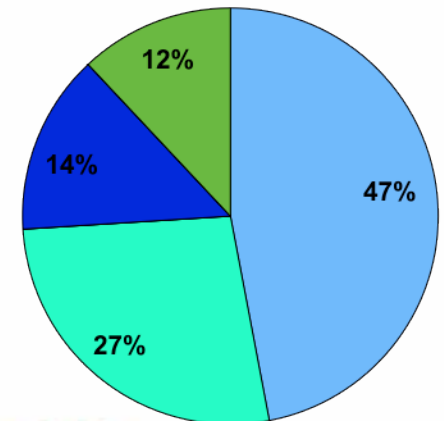
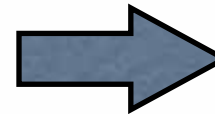
An overwhelming majority of voters believe that a strong economy and clean environment are compatible

- **77%** - We can have a clean environment and a strong economy at the same time
- **18%** - Sometimes a clean environment and a strong economy are in conflict and we must choose one over the other
- **5%** - Both/Neither/Don't Know



Nearly one half of voters believe climate change policies will yield more jobs for County residents

- **47%** - More Jobs
- **27%** - Would not affect the number of jobs
- **14%** - Fewer jobs
- **12%** - All/None/Don't Know



# Clean Tech Investment and Job Growth

## Clean Tech Investment Continues to Increase

- California accounted for 49 percent of all dollars invested and 41 percent of all deals in Q1 2010
- From 2006 to 2008, California received over two thirds of all U.S. cleantech venture capital investment—totaling \$6.5 billion
- California is the top state in patent registrations in green technology outpacing second-ranked New York by more than 150 patents between 2007 and 2009

### Top 10 VC Investment Cities Q1 '10

City	State	# Deals	\$ Investment
San Francisco	CA	63	\$478
New York	NY	45	\$263
San Diego	CA	23	\$199
Austin	TX	21	\$144
Palo Alto	CA	18	\$455
Seattle	WA	17	\$41
Sunnyvale	CA	14	\$138
Cambridge	MA	13	\$163
Irvine	CA	13	\$242
San Jose	CA	12	\$107



www.cbinsights.com

*“From 1995 to 2008 [the cleantech industry] grew at 36 percent... That’s huge. ... The overall economy grew only 19 percent in terms of jobs... but 36 percent is an incredibly large number.” - Victoria Bradshaw, CA Secretary of Labor  
November 30, 2010*



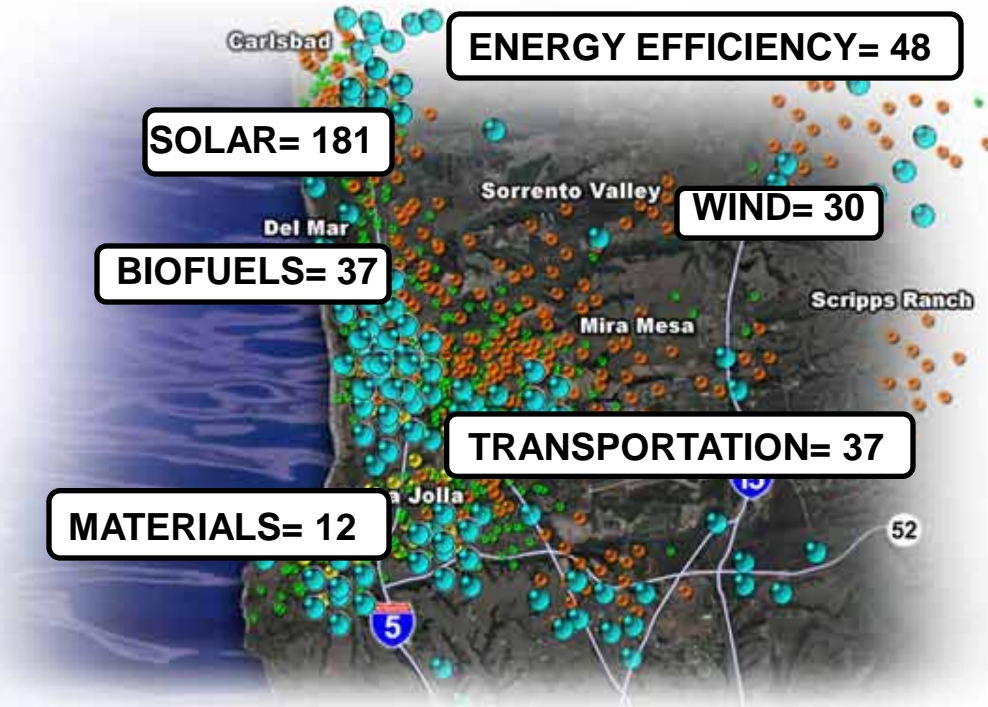
# The San Diego Clean Tech Economy

**Top 10**

Cleantech Cluster  
Organizations for 2010!

## 765 Clean Tech Companies and Counting

- Robust, upward trending new company growth
- Over 300 innovator companies and over 400 market enabler companies
- County-wide distribution. Dense formation around universities, research institutes and colleges
- Strong activity in solar, transportation, batteries, energy storage and biofuels



# San Diego's Solar Market

## San Diego is ranked the Number 1 Solar City by Environment Today

- Robust private sector market with 181 companies
- High penetration of rooftop PV installations
- Public private partnership brought \$150MM of CREBs financing to the region

## San Diego earns iHub Designation for Solar Storage

- Multiple projects underway at SDSU and UC San Diego
- Private sector storage and battery technology innovations
- The issue of our time...



The County's first CREB-financed solar PV project: a 283 kW shade structure at Hill Creek Elementary School in Santee



# Solar Manufacturing Development

## Growing Manufacturing Base

- Kyocera and Siliken announce expanded operations
- New entrants like Energy Innovations keep coming
- San Diego selected as final site selection for Soitec Factory, a Germany based company

## Case Study: SOITEC/Concentrix

- SOITEC San Diego Factory:
- Produces Concentrix CPV modules for US Market
- Creates Local Jobs: 500 direct and 1,000 indirect jobs; and an additional 300 direct and 7,000 indirect jobs during construction of a single 150MW power plant
- Environmental Benefits:
  - 150 MW plant will serve 55,000 households
  - 117,325 metric tons of avoided CO2 emissions annually



# The Smart Grid Opportunity

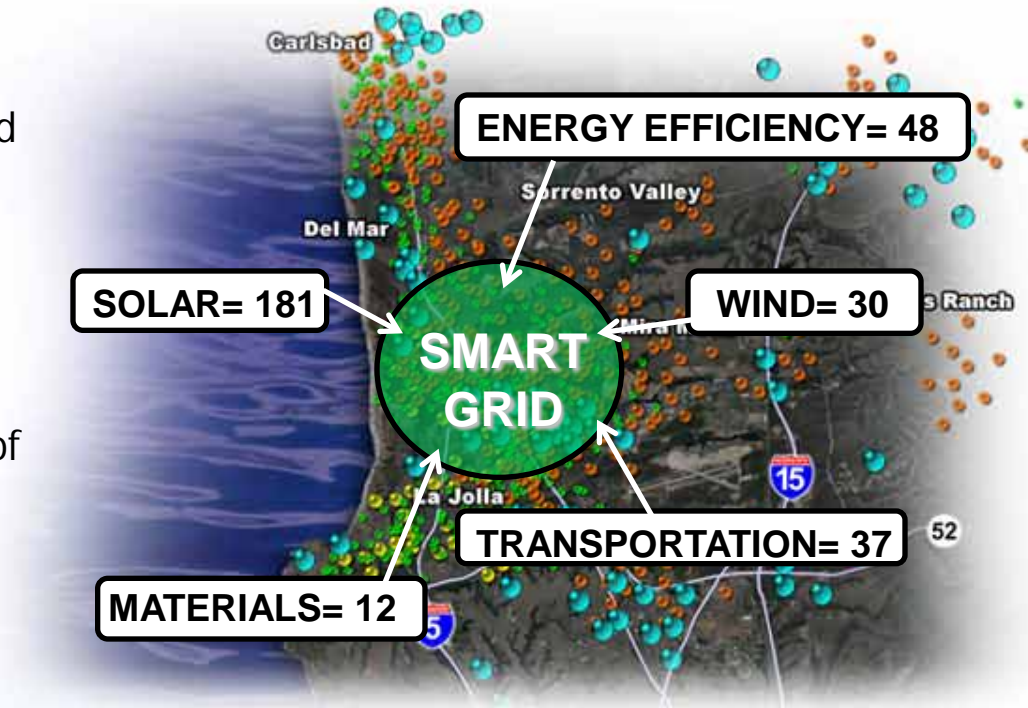
## A Digitized Grid Means Energy Security and Acceleration of Environmental and Economic Goals

### Leadership

- UTILITY - SDG&E ranked smartest utility in country
- UNIVERSITY - UCSD home to most advanced microgrid
- PRIVATE SECTOR - Connected high tech community

### Partnership

- Smart City San Diego
- Partners include: GE, UCSD, The City of SD, & SDG&E
- Comprehensive electric vehicle infrastructure plan addressing: grid reliability; consumer impact; public charging; and alternative fuel options.



# The Electric Vehicle Project

## EV Adoption is Here Now: San Diego is out Front

- Anticipated 2 million plug-in EVs in the US by 2020
- 20,000 Nissan Leafs in next 12 – 24 months
- 5-10% of nationwide orders are from San Diegans: 1,000 - 2,000
- EcoTality chose San Diego and 15 other cities nationwide to deploy \$230MM DOE grant to install charging stations

## Region is Preparing for Largest Deployment in History

- SDG&E preparing for grid impacts
- UCSD researching grid and storage scenarios
- City and CleanTECH San Diego exploring regulatory strategies to support deployment
- Hotbed for innovation on charging, metering, storage and fuel choice

**Regional Goal:** Ensure the successful adoption of EVs in San Diego to support the use of secure, domestic renewable energy as a transportation fuel source



Nissan LEAF



Chevrolet Volt



# San Diego at its Best: Biofuels

## Over 30 biofuels companies in San Diego

- Strong research assets
- Imperial Valley link

## Already an economic contributor

- SANDAG study shows 410 direct jobs
- \$108 million in total economic activity

## State and national visibility

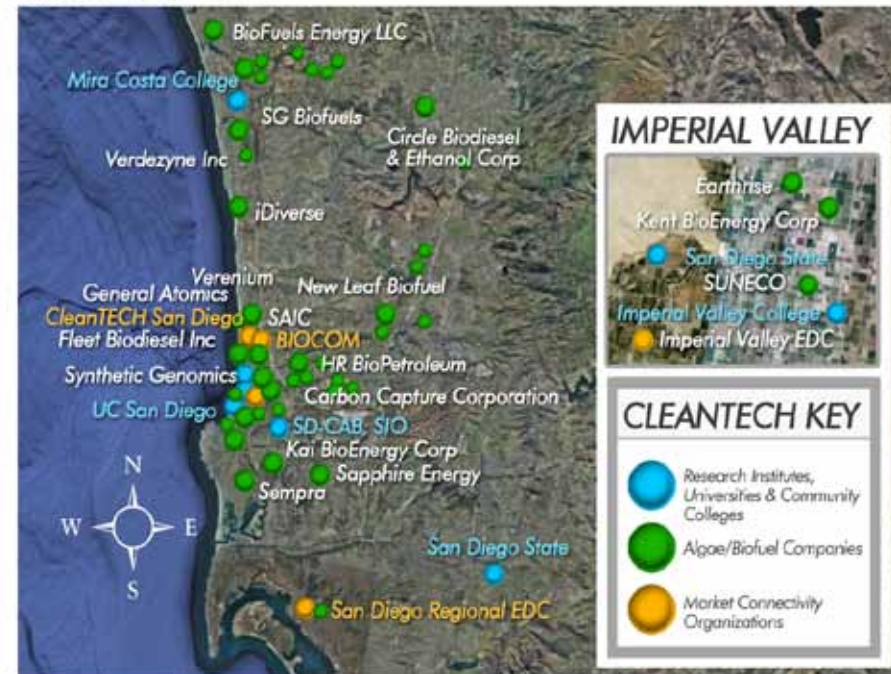
- State iHub designation
- Strong press. DCI provides national reach

## Growing manufacturing/commercial needs

## EDGE Initiative

- Workforce training for biofuels industry
- Partnership between BIOCOCM, EDC, CleanTECH, University and Workforce Partnership

## SAN DIEGO



# The EDGE Initiative

## CA Depart of Labor Grant

- Partnership between BIOCOM, EDC, UCSD, San Diego State, San Diego Workforce Partnership and CleanTECH San Diego
- Imperial Valley link – EDC and Imperial Valley College

## Industry Led

- Industry Advisory Council
- Over 20 biofuels companies participating
- Curriculum Development and Review
- Provide internship/job opportunities

## New Training Curriculum

- Immersion Program
- Biomass Production Training Certificate
- Biofuels Science Technician Certificate
- Advance Training in Biofuels Production Certificate (Masters)

## Curriculum Targets all Levels of Education

- Community Colleges will be Primary Vehicle

## Classes Start this Spring

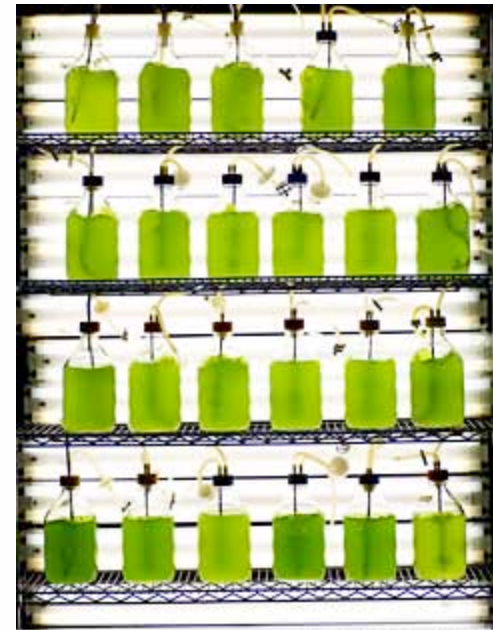


PHOTO: DAVID YELLEN



# International Leadership

## San Diego Launches Global Clean Tech Cluster Assoc.

- 30 Countries participate worldwide
- Showcase 10,000 international companies and 500 universities and research institutions

## CleanTECH San Diego Ranked Top 10 Cluster Organization in the World

- Only two other US Clusters Ranked

## International Partners and CleanTECH Members:

- AUSTRADE
- Consulate of Canada
- German Consulate
- Swedish-American Chamber of Commerce
- Swisscleantech
- Toronto Stock Exchange
- United Kingdom Consulate
- World Trade Center



# Contact Information

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