

Practical, Framework and Implementation GHG Issues

*Cap and Trade as a Tool for Climate Change Policy:
Design and Implementation*

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Feb. 22, 2007



California Climate Action Registry



■ Voluntary GHG Registry

- *Participants measure, certify and publicly report their GHG footprints according to rigorous Registry protocols*
- 240 members
 - 98% of power used in state
 - 75% of oil and gas
 - Lots of household names: Xerox, Kodak, Dow, Target, Corning, Jack Daniels
 - 300 mmt CO₂e certified; over half outside state

California Registry History



- Non-profit established by state law
 - AB 1771 (Sher, 2000)/AB 527 (Sher, 2001)
 - Companies wanted baseline protection for early action, so consented to rigor
 - Companies unwilling to report voluntarily to a state agency
- Public/Private Partnership
 - Appointed board, not self-perpetuating
 - 501c3 subject to open meeting laws
 - Dual role: “sister agency” – “business supported”
 - No advocacy

California Registry Impact



- AB 32 – Pre Passage
 - Registry existence took away arguments on practicality, cost of GHG measurement
 - No claims that 3rd party certification would cost \$500,000
 - Registry membership provided business *bona fides* to influence climate policy
 - Registry became known as center of progressive business thinking on climate issue
 - Registry is working framework for regulatory GHG reporting

Going Forward



- California Registry to sunset 12/21/07
 - Assumption: once there is mandatory, don't need voluntary
 - Unexpected outcome: Great majority of Registry members unlikely to be regulated immediately under AB 32
- Therefore, California Registry will continue
 - Help CARB on reporting transition issues
 - Write new protocols
 - Continue to serve voluntary market

The Climate Registry



- Working name of new multi-state Registry
- Operating by mid 2007
- Expect 10-30 states
- Serve both voluntary/mandatory programs
- Allows regional programs and cross-regime actions
 - Provides floor for measurement standards, thus trading possible without discounting
 - Reconciles load based vs generation based states
 - Starting place for states with no climate programs
- Possible basis for US Registry

Market Mechanisms/Policy Goals



■ Kyoto

- Low Cost
- Technology leapfrog (developing countries)
- Redistribution of wealth
- Technology forcing

■ CA

- Technology forcing
 - High cost of compliance
 - Long term horizon for carbon constraints
 - Few alternatives (limited offsets)

Candidates for Caps



- Large sectors/Large emitters (100,000 TCO₂e per installation)
 - Electricity production
 - Oil extraction and refining
 - Cement
 - Manufacturing

Candidates for Offsets



- Large Sectors/Small Emitters (below 25,000 TCO₂e)
 - Cars and trucks
 - Residential
 - Commercial
 - Forestry/Ag
- Small Sectors/Large Emitters
 - Ships
 - Locomotives
 - Aircraft

Role of Offsets



- Achieve reductions outside the caps
- Encourage political buy-in
 - Offsets for sectors with political clout
- Drive faster to low carbon future
 - Encourage product substitutions and investments

Approach to Offsets



- Case Law/CDM approach
 - Higher transaction costs
 - Large scale projects
 - Land use practices, transportation planning
 - Complex, site-specific, localized

- Explicit codified Standards
 - Lower transaction costs
 - Biodigesters
 - Re-forestation
 - Truck stop electrification
 - Landfills
 - Line haul truck engine improvements

Contact Information



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Registry Members



Aerospace

Raytheon

Batteries

Trojan Battery Co.

Chemicals

Dow Chemical-Pittsburg

Cities

City of Arcata

City of Carlsbad

City of Coronado

City of Los Angeles*

City of Palo Alto

City of Sacramento*

City & County of San Francisco

City of Santa Barbara

City of Santa Monica*

City of Vernon

City of West Hollywood

Construction

A. Teichert & Sons, Inc.

Sully-Miller Contracting

Counties

County of Los Angeles

County of Sacramento

Plumas County

San Benito County

Dairies

Driftwood Dairy

Education

Los Angeles Community College District

Natomas Unified School District

The California State University

University of California Campuses: Berkeley +
Davis + Los Angeles + Merced + Riverside +
San Diego* + Santa Barbara + Santa Cruz

Stanford University

San Diego Unified School District

Registry Members



Electric Power

AES Corporation

Caithness Operating Company

Calpine Corporation

Coalinga Cogeneration Company

Colmac Energy, Inc.

Constellation Energy

Covanta Energy Corporation

Crockett Cogeneration

El Dorado Energy

Elk Hills Power

FPL Energy

Griffith Energy, LLC

Kern River Cogeneration Company

LSP Arlington Valley, LLC

LSP Morro Bay, LLC

LSP Moss Landing, LLC

LSP Oakland, LLC

LSP South Bay, LLC

Mesquite Power

Mid-Set Cogeneration Co.

Midway Sunset Cogeneration

Mirant

NRG Energy Inc.

Pacific Energy Resources

Pacific-Ultrapower Chinese Station

Reliant Energy

Salinas River Cogeneration Company

Sargent Canyon Cogeneration
Company

Sierra Pacific Resources

Sunrise Power Company

Sycamore Cogeneration Company

Termoelectrica De Mexicali

Valle del Sol Energy

Walnut Creek Energy

Registry Members



Financial Services

CalSTRS
CalPERS

Food Processing

Anheuser-Busch Companies, Inc.
Brown-Forman Corporation
Clif Bar & Company
CP Kelco US Inc.
Frito-Lay North America, Inc.
Hailwood, Inc
Hershey Chocolate & Confectionary Corp.
Hilmar Cheese Company
Leprino Foods Co.
Mendocino Wine Co.
The Morning Star Company
Sierra Nevada Brewing Company

Forests/Forestry

CA Department of Forestry & Fire Prevention
Collins Pine Company
The Conservation Fund
The Van Eck Foundation

Foundations/NGOs

Energy Foundation*
Environmental Defense
Natural Resources Defense Council*
Plumas Corporation
The Climate Trust
The Pacific Forest Trust
Trust for Public Land
Union of Concerned Scientists*

Registry Members



Government Agencies

Bay Area AQMD
California Environmental Protection Agency*
California Energy Commission*
California Public Utilities Commission
Mojave Desert AQMD
Sacramento Metro AQMD
South Coast AQMD
USAF Space & Missile Systems Center

Healthcare/Pharmaceuticals

Catholic Healthcare West
Fremont Rideout Health Group
Kaiser Permanente
Loma Linda Uni. Health Sciences Center
Salinas Valley Memorial Healthcare System
San Antonio Community Hospital
St. Joseph Health System

Investor-Owned Utilities

Pacific Gas & Electric Corporation*
PacifiCorp
San Diego Gas & Electric
Southern California Edison
Southern California Gas Company
Southwest Gas Corporation

Manufacturing

Allergan, Inc
Anlin Industries
Bentley Prince Street*
Corning Incorporated
Eastman Kodak Company
Guardian Industries Corp.
Hewlett-Packard
Jazz Semiconductor
Johns Manville
Solar Turbines
Xerox Corporation
USG Corporation
U.S. Tile Co.
Vulcan Materials Co., West. Division

Registry Members



Medical

Baxter BioScience
Guidant Corporation
Genentech
Johnson & Johnson

Metals

California Metal-X
Strategic Materials Corp.
Shultz Steel Company
TAMCO
Thorock Metals Co, Inc.
TST, Inc.

Mining

Rio Tinto Minerals

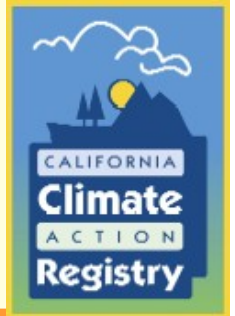
Oil/Gas

Aera Energy
Berry Petroleum Company
BP America Inc.*
Chevron USA Inc. & Affiliates
ConocoPhillips
Cooper & Brain, Inc.

Oil/Gas cont'd

El Paso Corporation
Graner Oil Company
Hellman Properties
Ivanhoe Energy USA, Inc.
Linn Western Operating Inc.
Macpherson Oil Co.
Naftex Operating Co.
Nations Petroleum
Occidental of Elk Hills, Inc.
Paramount Petroleum Corp.
Plains Exploration & Production Co.
Shell Oil Company
Signal Hill Petroleum, Inc.
The Termo Company
Thums Long Beach Company
Tidelands Oil Production Company
Towne Exploration Company
Ultramar Inc.
Valero Refining Company-California
Venoco Inc.
Vintage Production California

Registry Members



Printing

Cenveo Anderson Lithograph

Professional Services

ACE Technologies

AgCert

Barg Coffin Lewis & Trapp

Better World Group*

Blue Source

Clipper Windpower*

Constructive Technologies Group

Ecotek

Ecos Consulting

Enviance

ERM West

ESP, Inc.

Farella Barun + Martel

ICF Consulting*

MWH Americas, Inc.

Pacific States Environmental
Contractors

Pacific Waste Consulting Group

Planktos, Inc.

Professional Services cont'd

Potomac-Hudson Engineering

SAIC

Terra Global Capital

Public Utilities

Anaheim Public Utilities

Austin Energy

Burbank Water & Power

East Bay Municipal Utility District

Eastern Municipal Water District

Glendale Water & Power

Imperial Irrigation District

Los Angeles Department of Water & Power*

Northern California Power Agency

Pasadena Water & Power

Platte River Power Authority

Riverside Public Utilities

Roseville Electric

Sacramento Municipal Utility District*

Santa Clara Valley Water District

Seattle City Light

Silicon Valley Power

Sonoma County Water Agency

SRP

Turlock Irrigation District

Registry Members



Retailers

Safeway Inc.
Target Corporation

Solid Waste

Allied Waste Industries
Central Contra Costa Sanitary District
County Sanitation Districts of LA
County
Marin Sanitary Service, Inc.
Norcal Waste Systems, Inc.
Orange County Sanitation District
Republic Services, Inc.
Union Sanitary District
Waste Connections
Waste Management

Telecommunications

AT&T
QUALCOMM Inc.*
Verizon

Transportation Services

AC Transit
Bill Signs Trucking, LLC
Department of General Services
Port of Los Angeles

Water

Apple Valley Ranchos Water Co.
Park Water Company
Metropolitan Water Dist. of S. CA