



## CARNEROS INNOVATION DIALOGUE:

A strategic conversation on new approaches to sustain clean tech investment and spur continuing innovation in California

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## About Next 10

- Founded in 2003
- Independent, Nonpartisan, Nonprofit
- Focus on Budget, Infrastructure, Green Economy
- Commissions expert research to educate, engage, empower



## About the California Green Innovation Index

- Analyzes key economic and environmental indicators
- Green innovation has helped us reduce GHG emissions and grow the state's economy
- Tracks performance as we work toward AB 32 goals
  - Innovation is the driver of California's economic and environmental progress
  - The first wave of green innovation
  - Tracking signs of the next wave of green innovation
  - The challenge and prospects for the future



## Overview of the Carneros Innovation Dialogue

- Convened October 17-18, 2007 by Next 10, the Energy Foundation and MEG LLC in Carneros, CA
- Free and frank discussion held under “Chatham House rules”
- A multi-stakeholder strategic dialogue bringing together senior state officials, leaders of the legislature, thought leaders in the finance and investment sector, seasoned executives from the industrial sector, with academics and NGOs



## Institutions Represented at the Dialogue

- **GOVERNMENT:** Resources Agency, Energy Commission, Air Resources Board, Attorney General's Office, Public Utilities Commission, State Legislature, EPA, Gov's Office
- **INDEPENDENT:** Environmental Entrepreneurs, NRDC, Flex Your Power, CLCV, Energy Foundation
- **FINANCE:** State Treasurer's Office, CA Clean Energy Fund, Morgan Stanley, Bank of America, Nth Power, CALPERS
- **INDUSTRY:** Ford, Toyota, Powerlight, CA Portland Cement, PG&E
- **ACADEMIC:** UC Berkeley, Stanford



## Categories of Key Policy & Strategy Recommendations

- Information programs, public outreach campaigns, and education strategies
- Strategies to promote RD&D of clean technologies
- Policies and programs to increase demand for clean tech
- Programs to facilitate financing of investments in clean tech by end-users (both consumers and firms)
- Policies, strategies, and approaches to improve institutional coordination and streamline regulatory processes
- Programs, campaigns, and strategies to encourage firms to locate clean tech manufacturing facilities in California



## Key Policy & Strategy Recommendations

- Develop “Carbon Labels” for consumer products and for all assets procured by State government
- Create a “Green Cities” program to recognize cities that commit to emissions reductions and clean techs
- Implement “Green Procurement” standards for State agencies
- Introduce revenue-neutral, “fee-bate” program for light-duty vehicle manufacturers
- Support establishment of a California institute for climate solutions and support cost-shared research on long-term, high-risk technology development



## Key Policy & Strategy Recommendations (cont'd)

- Implement enhanced performance standards for vehicles and fuels, roads and pavements, buildings, water use efficiency and water transport
- Require mandatory retrofit of energy efficiency measures at time of transfer for all commercial buildings
- Encourage public/private partnerships for building efficiency thru sale and lease-back of state-owned real estate assets, for manufacture of vehicles with electric drive, and for driving down the cost of solar energy to the “China price”



## Key Policy & Strategy Recommendations (cont'd)

- Support development of a California Carbon Trust funded with the proceeds of auctions for emissions allowances to finance early stage investments in Clean Tech by small CA businesses
- Support establishment of a California Carbon Bank using state-bond revenues and the sale of carbon credits to finance end-user uptake of clean technologies and investment in energy efficiency
- Modify the California Alternative Energy and Advanced Technology Financing Authority (CAEFTA) to allow financing of alternative energy mfg plants



## Key Take-Away Messages

- Window of opportunity is closing -- continuing atmospheric build-up of GHGs increases the urgency of acting soon
- Innovative policies helped to drive CA's first wave of green innovation
- Innovative policies are needed again now to promote massive deployment of clean technologies in near- to mid-term and to sustain pace of innovation for the long-term
- Not a question of "either-or" but "both-and"
- Need a balanced portfolio of traditional regulation, market-based mechanisms, emissions cap-and-trade, plus targeted incentives



## Key Conclusions

- Recommendations that come out of the Carneros Innovation Dialogue do not imply formal consensus
- They have not been accompanied by thorough and comprehensive assessment
- They are ideas that merit further analysis and that we urge ETAAC to consider
- For example, “Carbon Labeling,” the electric car, and net metering rules to allow distributed solar installations to sell power to the grid in excess of what they buy from the grid



## Background Inputs to Carneros Dialogue

- Cap-and-trade programs are very important for limiting future emissions but, by themselves, may not stimulate continuing technical innovation
- Other kinds of market-based mechanisms and targeted incentives are also needed
- Other countries and other states are moving forward with programs that may have important implications for meeting the AB 32 targets



## Framework for Assessing Alternative Policies & Strategies

- Information, public outreach, and education strategies
- Initiatives to support and expand Research, Development, and Demonstration of next generation technologies
- Programs to facilitate financing clean-technologies by end-users
- Measures to improve institutional coordination and streamline regulatory processes
- Actions to encourage clean tech firms to locate in CA

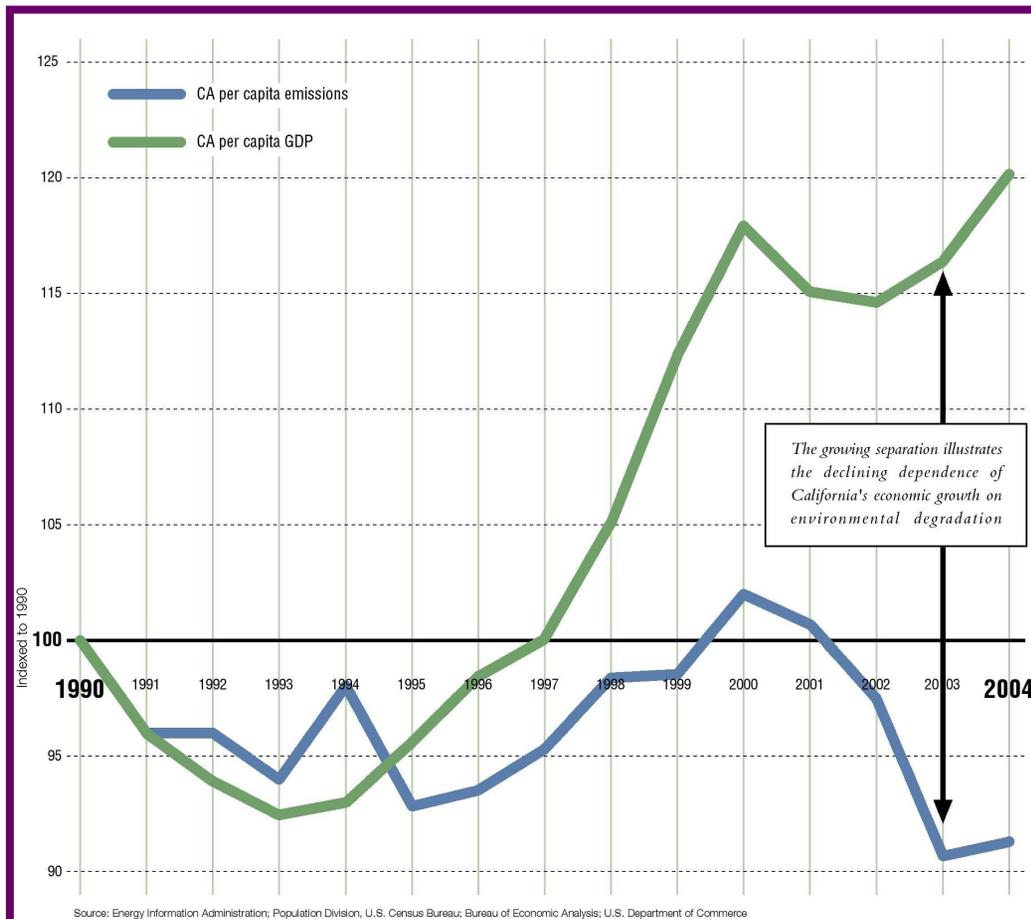


## Criteria for Evaluating Alternative Policies & Strategies

- Cost-effectiveness of the specific measure
- Ability to leverage additional resources
- Ability to take the measure to a larger scale
- Ability to address issues of environmental justice
- Ability of various strategies to work together in a complementary fashion and to generate synergies



## Emissions & GDP

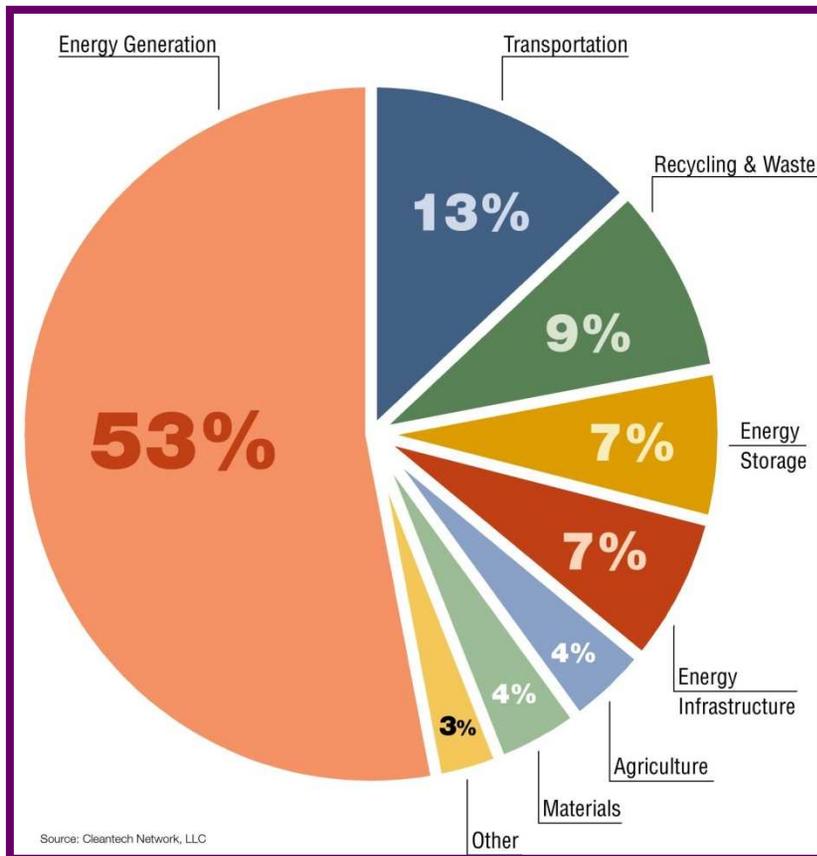


California's economic growth is increasingly less dependent on the production of greenhouse gas emissions.



## VC Investment IN Clean Tech: California

*By cleantech segment; Q1-Q2 2007*



California attracted 49% of all cleantech VC investment in the U.S. during the first half of 2007.

53% was in Energy Generation.



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