



CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM  
INVESTMENT OFFICE

FINANCING RENEWABLES: THE GREEN CHALLENGE

WINSTON HICKOX  
*Portfolio Manager*

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## Why Cleantech For CalPERS?

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### Macroeconomic

- Dramatic increase in global demand but limited supply of natural resources
- Topic of global warming becoming more prominent; ratification of Kyoto Protocol
- “Push” by regulators calling for increased exposure to alternative energy/renewables by utilities through policy and tax credit incentives
- “Pull” by consumer demand for cleantech

### FINANCIAL COMMUNITY

- Corporations focusing on cleantech to optimize and/or grow platform businesses
- Private equity community identifying cleantech sector as “next big thing” and more near-term/commercially viable than earlier believed
- Green Wave Initiative by California State Treasurer Phil Angelides

- There is a potential arbitrage between regulatory policies and solutions for those willing to invest now (e.g. renewables)
- Major opportunity for CalPERS to generate attractive investment returns by investing ahead of the curve as opposed to behind

## *CalPERS Cleantech Program*

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- In March 2004, CalPERS Board approved \$200 million in separate program to invest in cleantech opportunities
- Cleantech defined as more efficient and less polluting
- Program objective is to achieve attractive investment returns on risk-adjusted basis while achieving ancillary benefits such as job creation and broader adoption of clean technologies in the marketplace
- Areas of interest include alternative/renewable energy, water technologies, advanced materials, air purification technologies, and transitional infrastructure
- Staff mainly focusing on partnership opportunities – our main area of expertise, which is fund investing

## *Cleantech Program Strategy*

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### Diversification

Broad and flexible investment approach reflecting the diversity of opportunities with environmental benefits

### Prudence

Patient investment approach to growing market opportunity

### Phased Due Diligence

Combining traditional investment analysis with environmental screen

### Returns Expectation

Investment returns commensurate with risk-adjusted returns of the overall asset mix

## Program Implementation

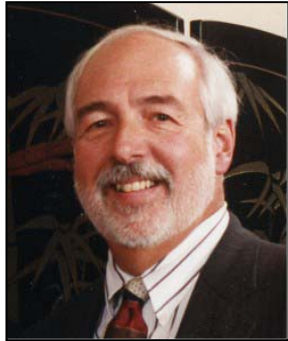
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- Problem: No single firm was identified as having cleantech domain expertise in both cleantech and fund due diligence
- Solution: CalPERS' outside-the-box thinking led to creation of the “best of breed” cleantech advisor and governance

Advisory Committee	
Financial and Investment (PCG)	Cleantech/Environmental (PCG Sub-Advisor)
<ul style="list-style-type: none"><li>• Investment Track Record</li><li>• Management Team</li><li>• Market Opportunity</li><li>• Investment Strategy</li><li>• Terms and Conditions</li><li>• Fit within Program</li></ul>	<ul style="list-style-type: none"><li>• Technical Competency</li><li>• Domain Knowledge</li><li>• Measurement and Reporting Capabilities</li><li>• Environmental Track Record</li><li>• Fit within Program</li></ul>

## *Dedicated Team Approach*

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**Winston Hickox**  
CalPERS



**Leon Shahinian**  
CalPERS



**Joncarlo Mark**  
CalPERS



**William Chu**  
CalPERS



**Christopher Bower**  
PCG



**Peter Martenson**  
PCG



**Rick Fratus**  
PCG



**Bryan Martel**  
PCG Sub-Advisor

## *Program Progress*

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- Anticipating completion of full due diligence for five private equity funds over the near-term and mid-term
  - Early-stage venture firm focused on advanced materials
  - Growth equity/buyout firm focused on environmental investing
  - Early/mid-stage venture firm focused on technology investments in energy, materials, and environment
  - Established growth equity/buyout firm focused on energy and power industries
  - Multi-stage venture firm focused on broad cleantech
- Several “mainstream” funds currently under review phase
  - Premier buyout firm focused on renewable infrastructure (e.g. project finance, asset acquisition)
  - Top-tier Silicon Valley venture firm focused on multi-stage investing in water, materials, and renewables

## *Looking Ahead*

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- Anticipating Program to be 30% to 50% committed by calendar year end 2005, *only if attractive risk-adjusted opportunities are available*
- Creating CalPERS AIM Cleantech website
- Anticipating Program to be substantially allocated by calendar year end 2006, *only if attractive risk-adjusted opportunities are available*