

Electrochromic Glazings Technology

SAGE Electrochromics, Inc.

DOE Project Award Number: DE-EE0003926

Program Director:

Neil Sbar

Principal Investigator:

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Windows Roadmap Meeting June 28, 2012

Project Objectives

Improve EC Window Design, Materials, and Processes for enhanced performance and value to users.

- Greater annual energy saving in buildings
- Lower costs through EC materials changes, faster throughput, higher yields.

Progress

Energy

- **More Transparent Materials and Optically Tuned Film Stack**
 - Increased dynamic range for Transmittance
 - Evaluated SHGC and U-Factor as function of film properties

Cost

- **Demonstrated Lower Cost Thin Film Materials**
- **Reduced Defects due to Fewer Particulates/Contaminants**
- **Improved Target Materials and Construction**
 - High deposition rates, and longer times between changeouts
- **Process Controls to Optimize Yields**
 - In-line monitoring and real-time feedback

Performance

- **Faster switching**
- **Excellent Durability**

Expected Outcome

- **Energy Saving and Environmental Benefits**
 - Heating energy savings due to higher SHGC and lower U-value
 - Reduced CO₂ emissions
 - More sustainable solar control solution
- **Reduced Price of EC Glazing**
 - Increased market penetration
 - Initially green, high-performance commercial/institutional buildings
- **Economic Impact**
 - Development of new, multi-billion dollar tech. industry



Project Cost

Budget Period Cost Allocations

Budget Period Number	Start Date	Government Share \$/%		Recipient Share \$/%		Total Estimated Cost
1	07/01/2010	\$953,918	80.0%	\$238,479	20.0%	\$1,192,397
2	07/01/2011	\$679,383	80.0%	\$169,845	20.0%	\$849,228
Total Project --		\$1,633,301	80.0%	\$408,324	20.0%	\$2,041,625

REFERENCE SLIDES

Chabot College, Hayward, CA



SAGE's New High Volume Factory

- Building – 345,000 sqft
- Glazing Size – 5 ft x 10 ft
- Production – Jan. 2013
- Capacity – 4 M sqft/yr

