



U.S. Department of Energy
Energy Efficiency and Renewable Energy

DOE SSL Program: Commercialization Support Thrust – Testing

*DOE SSL Commercial Product Testing Program Workshop
Washington, DC*

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US Department of Energy

Office of Energy Efficiency and Renewable Energy

Buildings Technologies Program

October 27, 2006



The Legislative Authority

Domenici-Barton Energy Policy Act 2005

Section 912

“The Secretary shall carry out a Next Generation Lighting Initiative in accordance with this section to support research, development, demonstration, and commercial application activities related to advanced solid-state lighting technologies based on white light emitting diodes.”



Next Generation Lighting Initiative Key Points

- Authorizes \$50 million for FY2007 through FY 2013
- Competitively select Industry Alliance
- Award competitive R&D projects
- Directs for intellectual property guidance - an Exceptional Circumstance Determination
- Make roadmaps and general information available to public
 - www.netl.doe.gov/ssl



SSL Partnership Next Generation Lighting Industry Alliance MOA

“The Parties will conduct activities in support of research, demonstration and deployment of solid state lighting (SSL) technologies for general lighting applications.”

“...create criteria for voluntary market conditioning programs, such as ENERGY STAR®”

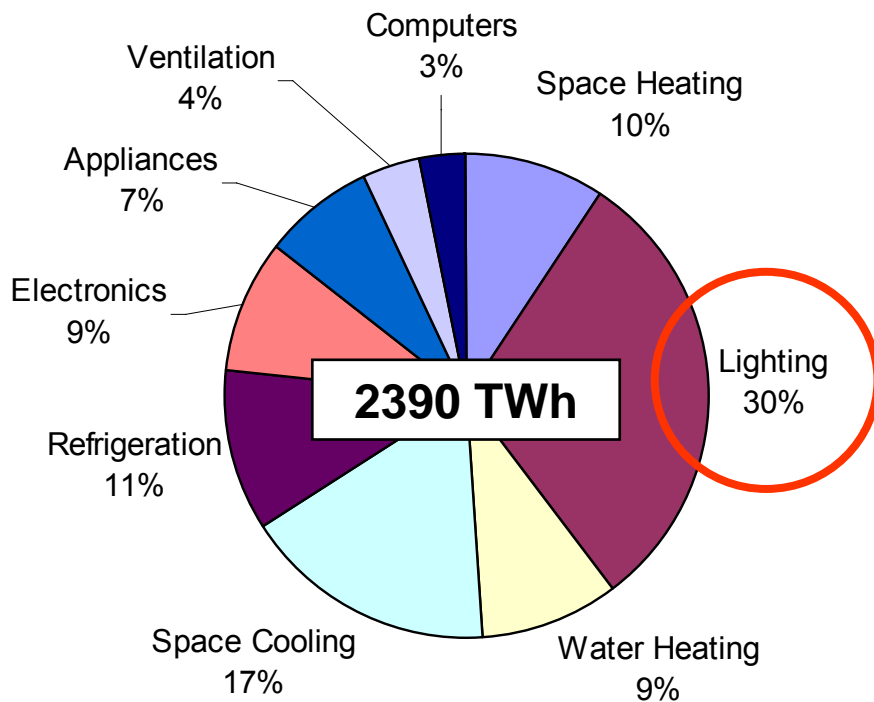
Members:

Acuity Brands Lighting ♦ Air Products & Chemicals, Inc. ♦ CAO Group ♦ Color Kinetics ♦ Corning, Inc. ♦ Cree Inc. ♦ Dow Corning ♦ Eastman Kodak Company ♦ GELCore LLC ♦ General Electric Company ♦ Lumileds Lighting LLC ♦ LPI, LLC ♦ OSRAM Opto Semiconductors ♦ OSRAM Sylvania ♦ Philips Electronics North America Corp. ♦ 3M Corp.

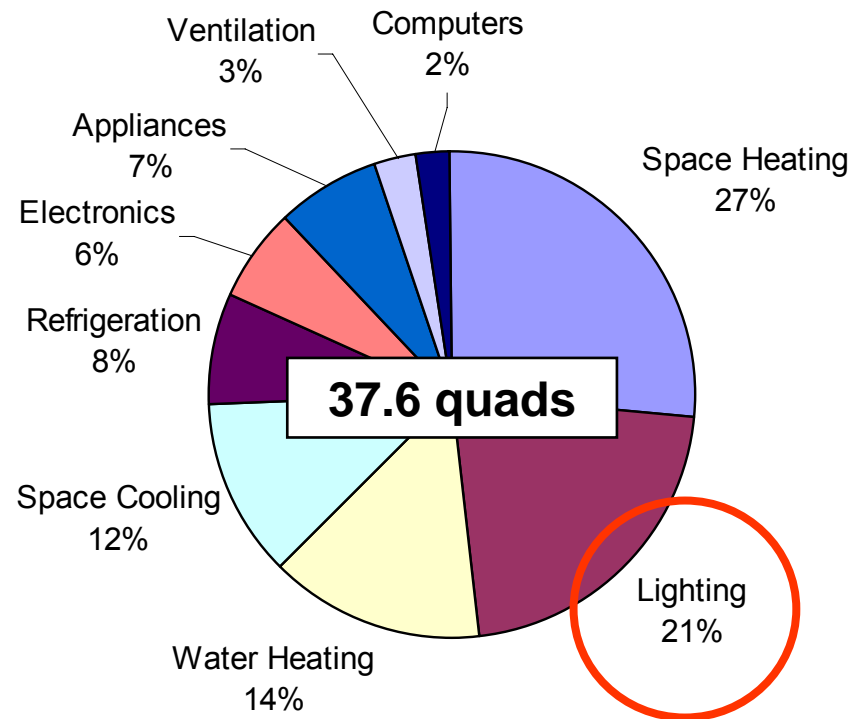


U.S. Buildings Energy End-Use Breakdown, 2001

Site Electricity Consumption



Total Primary Energy (all fuels)





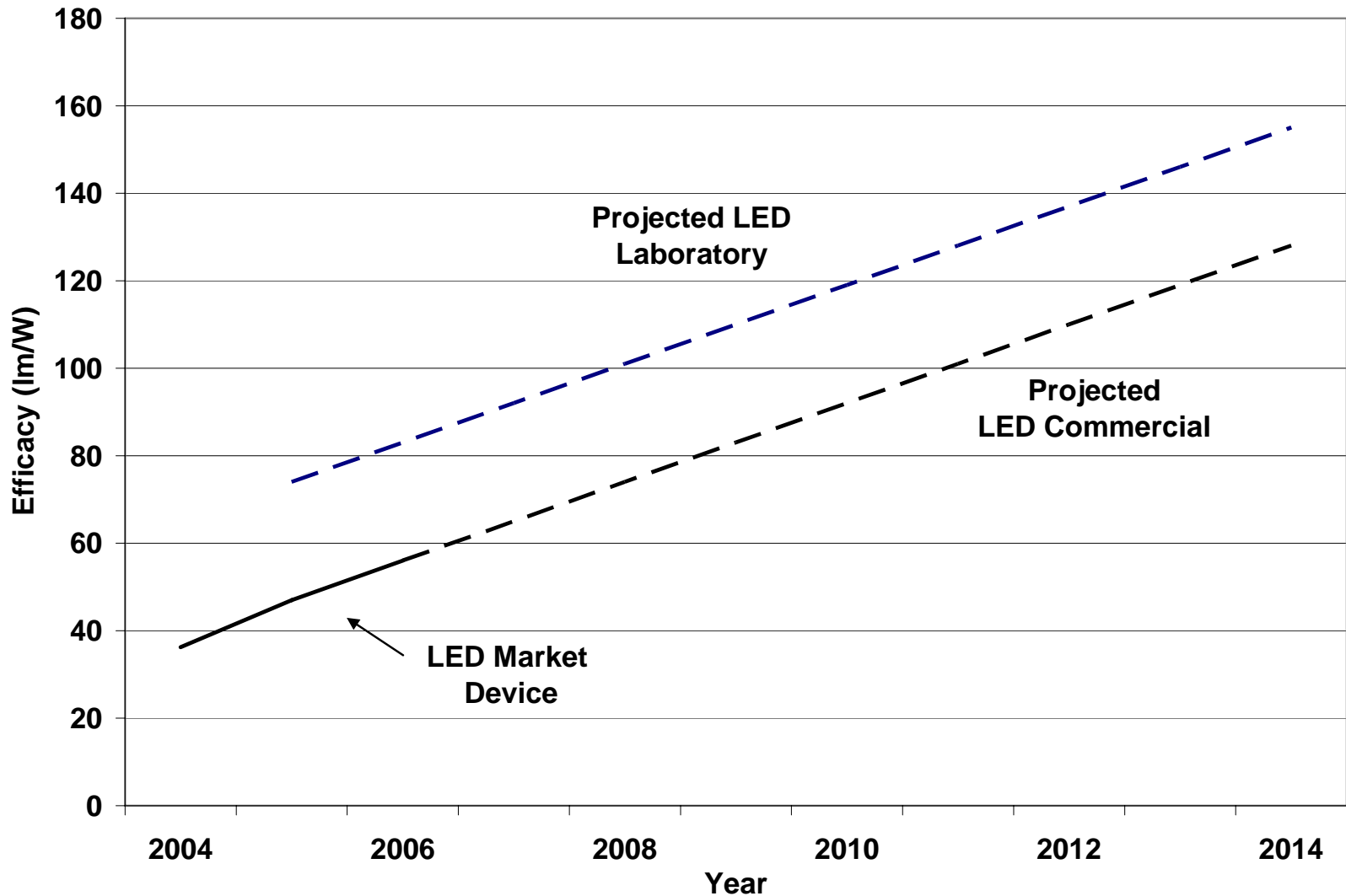
Mission Statement

Solid-State Lighting Program Mission

Guided by a government-industry partnership, the mission is to create a new market for high-efficiency, general illumination products through the advancement of semiconductor technologies, to save energy and enhance the quality of the lighted environment.

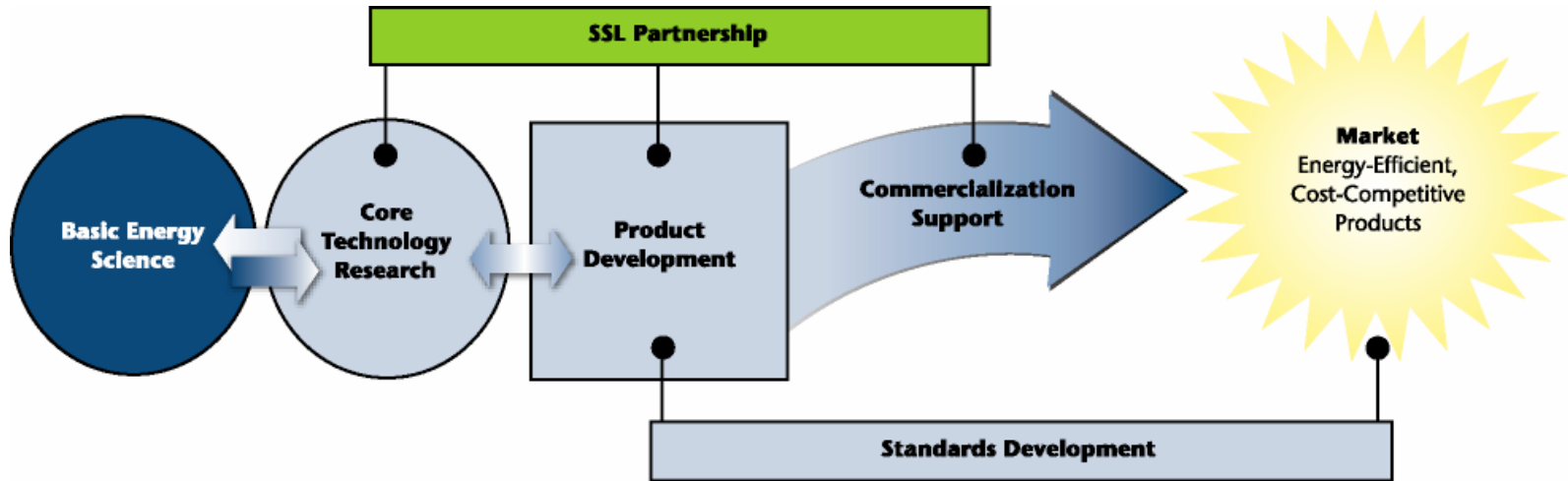


White-Light LED Efficacy Targets





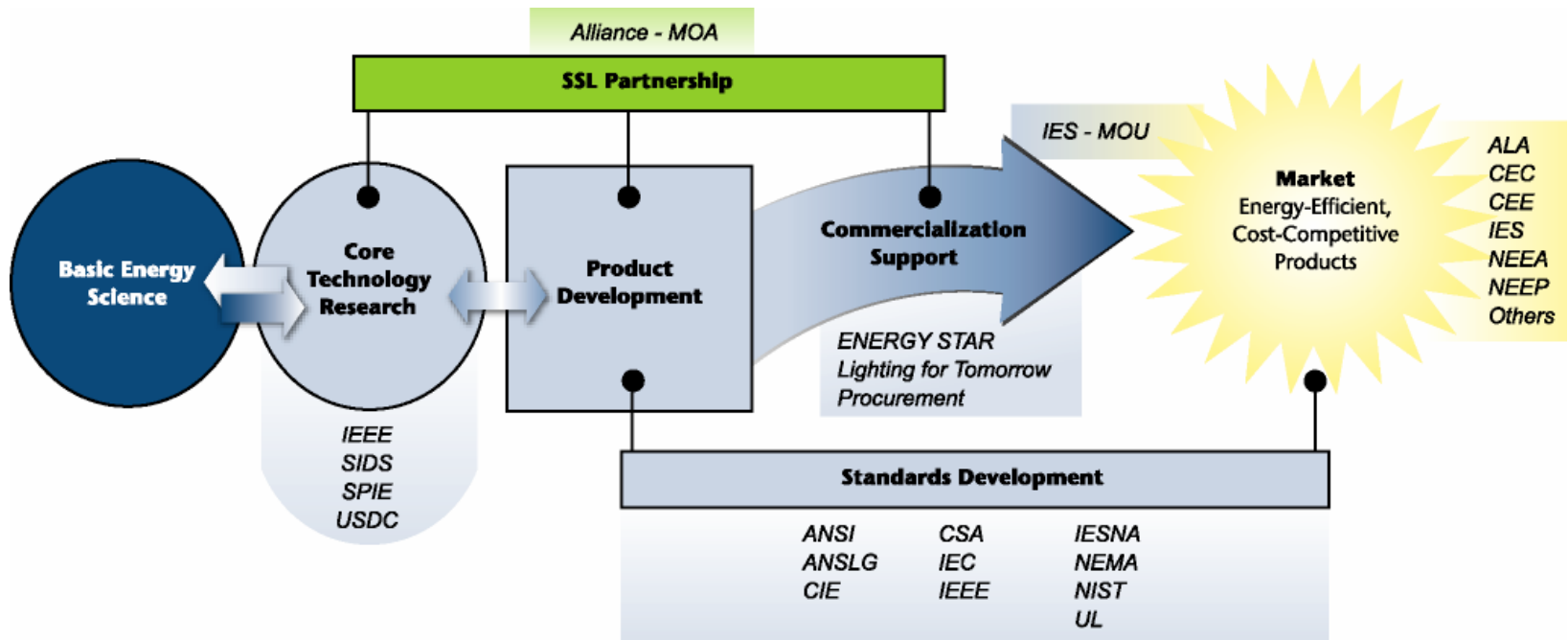
DOE Solid-State Lighting 5 Thrust – Total Program



Guiding technology advances from
laboratory to marketplace



DOE SSL Technology & Market Partners





General Plan for Commercialization Support

- ENERGY STAR® SSL specifications
- Design competitions for SSL systems
- Coordination with utility, regional, and national market transformation programs
- Technology procurement programs linking products to volume buyers



General Plan for Commercialization Support (continued)

- Consumer and business awareness programs
- Technical information resources –
test procedures
- Commercial Product Testing Program
- Solicitation for Lighting Testing Services



SSL – Situational Analysis

- Technology
 - Emerging: efficacy, directional, heat transfer
- Market
 - Niche applications for white light
- DOE response
 - Lessons learned from CFLs
 - Standards in development
 - DOE SSL ENERGY STAR
 - DOE Testing Program



Product Testing Guides DOE Efforts

- SSL R&D
- DOE SSL ENERGY STAR specifications
- Technology demonstration and procurement
- Standards development
- Market stability
- Public information



DOE SSL Commercial Product Testing Program

- **Process**
 - Product selection
 - Partners
 - Testing
- **Results**
 - Input to DOE SSL Program
 - Information from DOE
- **Pilot phase in progress**



For More Information

To learn more about the DOE
Solid-State Lighting R&D program, projects,
and funding opportunities, visit:

www.netl.doe.gov/ssl