

Sunlight Inside Initiative

INITIATIVE OVERVIEW This initiative is a proposed follow-on to take the next step toward commercialization of the R&D activities funded under the DOE's EERE Energy Science Initiative (EESI). R&D institutions developing new hybrid solar lighting (HSL) systems are currently seeking partners interested in participating in a proposed cost-shared field trial program of this emerging technology during 2005–2006.

TECHNOLOGY OVERVIEW

HSL uses natural and electric light sources to co-illuminate interior spaces. Sun-tracking collectors concentrate sunlight into optical fibers that distribute the light indoors to hybrid light fixtures. Control systems continually monitor how much natural light is available and adjust electric light output accordingly. Electricity is conserved during daytime peak demand periods in proportion to the amount of sunlight available. Each HSL system will illuminate 500 to 750 ft² of floor space depending on the lighting requirements of the space being illuminated. More technical information about the technology and R&D activities can be found at www.energy.unr.edu and www.ornl.gov/hybridlighting.

INITIATIVE GOALS

- 1) demonstrate technical feasibility and energy-savings potential
- 2) expose HSL technology to users and stakeholders
- 3) acquire field data on HSL equipment and installation, operation, and maintenance processes
- 4) help bridge the gap between R&D and commercialization by creating an initial market for HSL.

BENEFITS

- **Field Trial Hosts:** Lower energy costs, improve lighting quality, customer lighting satisfaction could lead to increased sales, garner national exposure in cutting-edge R&D program, and positive environmental impacts
- **States:** Facilitate the introduction of new clean energy technology in state, garner national exposure in cutting-edge R&D program, and positive environmental impacts
- **Utilities/Distributors:** Investigate new technology with the potential to reduce peak demand loads, and positive environmental impacts

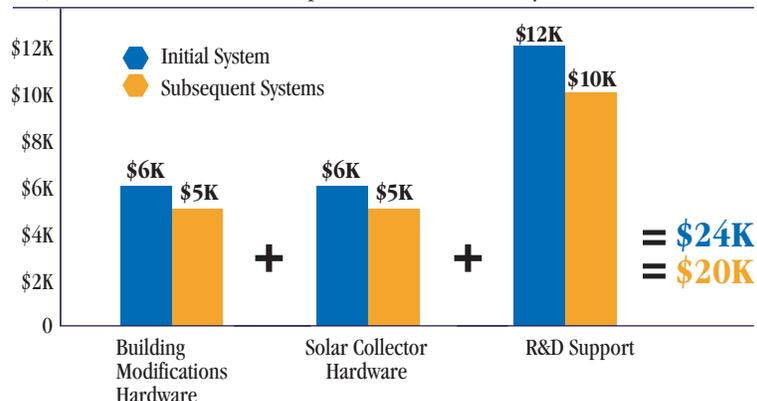
MINIMUM REQUIREMENTS OF FIELD TRIAL PARTNERS

- 1) select one or more suitable building and specific interior area for HSL demonstration(s)
- 2) purchase the “in-building” portion of HSL hardware
- 3) complete all “in-building” modifications in preparation for the collector installation
- 4) provide periodic web-based feedback to the sponsors and researchers.

The Partners can improve the likelihood of their participation in the Initiative by procuring the collector hardware and funding R&D support (labor and expenses).

ANTICIPATED COSTS PER SYSTEM

\$24,000 for the first unit installed per site and \$20K for every unit installed thereafter.





LEVELS OF PARTICIPATION

Interested organizations can choose to participate in the Initiative at differing financial sponsorship levels. The three proposed levels of participation are shown below:

LEVEL	BENEFITS
Level 1 Sponsor – Cost: \$24,000 for first system, \$20K per system thereafter	<ul style="list-style-type: none"> • guaranteed involvement in Initiative • 3 complimentary passes to the annual HSL Summit • prominent recognition as sponsor during the annual Summit and on the Partnership's web-site • membership on HSL commercialization advisory panel
Level 2 Partner – Cost: \$12,000 for the first system, \$10K per system thereafter	<ul style="list-style-type: none"> • 2 complimentary passes to the annual HSL Summit • recognition as partner during Annual Summit and on the Partnership's web-site
Level 3 Partner – \$6,000 for the first system, \$5K per system thereafter	<ul style="list-style-type: none"> • 1 complimentary pass to the annual HSL Summit • recognition as field trial partner on the Partnership's web-site

Level 1 Sponsors will be guaranteed involvement in the Field Trial program. Applications from Level 2 Partners will be give priority over Level 3 applicants on a first-come, first served basis.

Enrollment Process - A downloadable Field Trial Application Form will be made available in August 2004 at which time an open enrollment period will be begin.

Bundled Contributions - Interested parties can bundle cost-shared contributions to upgrade from one priority level to the next. Examples of the bundling process are as follows:

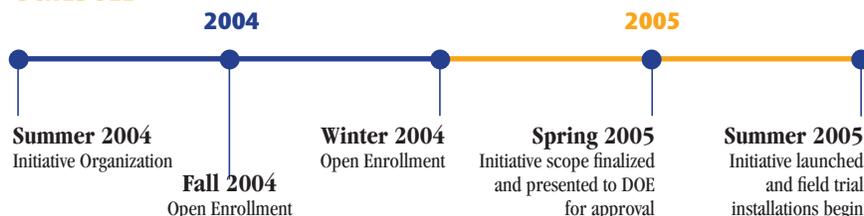
Scenario A – Level 1 Sponsor

- Host Partner – \$6K contribution for in-building procurements/modifications
- Utility – \$6K contribution for procurement of HSL collector
- State Energy Office – Contributes \$12K to cover R&D support

Scenario B – Level 2 Partner

- Host Partner - \$6K contribution for in-building procurements/modifications
- Utility - \$6K contribution for procurement of HSL collector

SCHEDULE



The following R&D organizations actively supported the development of the hybrid solar lighting technology under the DOE EESI program and will be participants in the sunlight inside initiative:



Rensselaer Polytechnic Institute



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