ICAT

INNOVATIVE CLEAN AIR TECHNOLOGIES

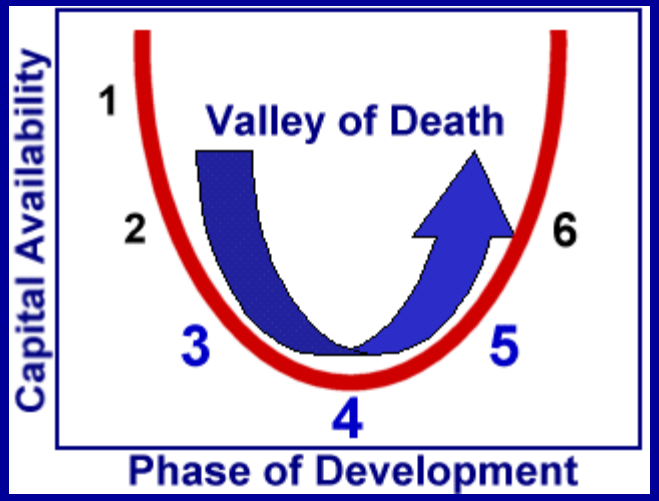
January 2008

Grants for Promising Technologies

California Environmental Protection Agency

Air Resources Board

Why was ICAT Established?



1. Idea Development
2. Proof of Concept
3. Pilot
4. Prototype
5. Demonstration
6. Commercial Sales

To promote:

- emission reductions
- ARB initiatives
- California economy
- improve public health

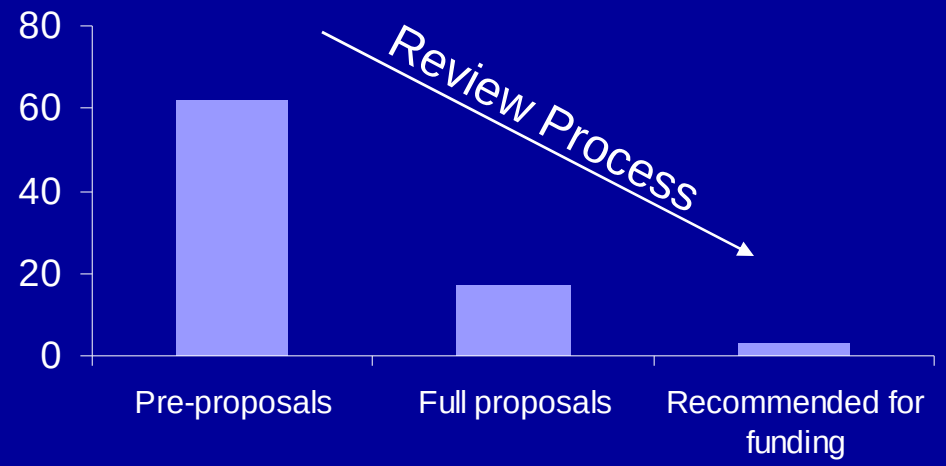
By: co-funding field demonstrations of new, beneficial technologies

ICAT Grants

- ICAT funds up to 50% of project costs
- ICAT does not pay for equipment
- ICAT does not pay overhead
- Conditions on payments to grantee

Selecting 2007 Grantees

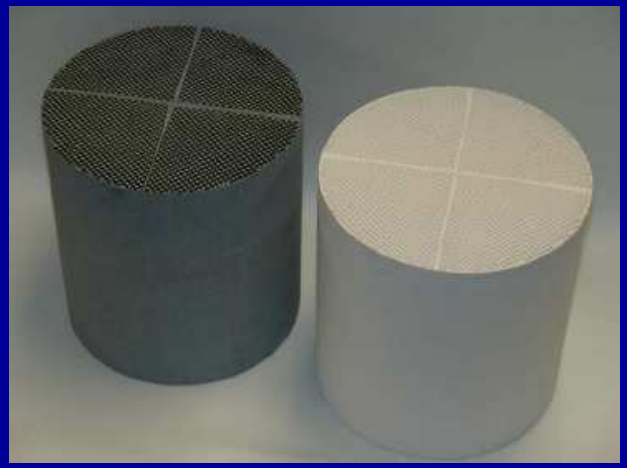
- Received 62 pre-proposals
- Reviewed and evaluated 17 full-proposals
- Evaluated by ARB, SCAQMD, academic reviewers
- Selection based on:
  - quality of innovation and proposed project
  - potential for emission reductions and commercialization



New Grants Recommended

- Three new grants
- $497,996 in total ICAT support
- $1.1 million total project value (including applicant's contributions)

Low Cost Solar Water Heater

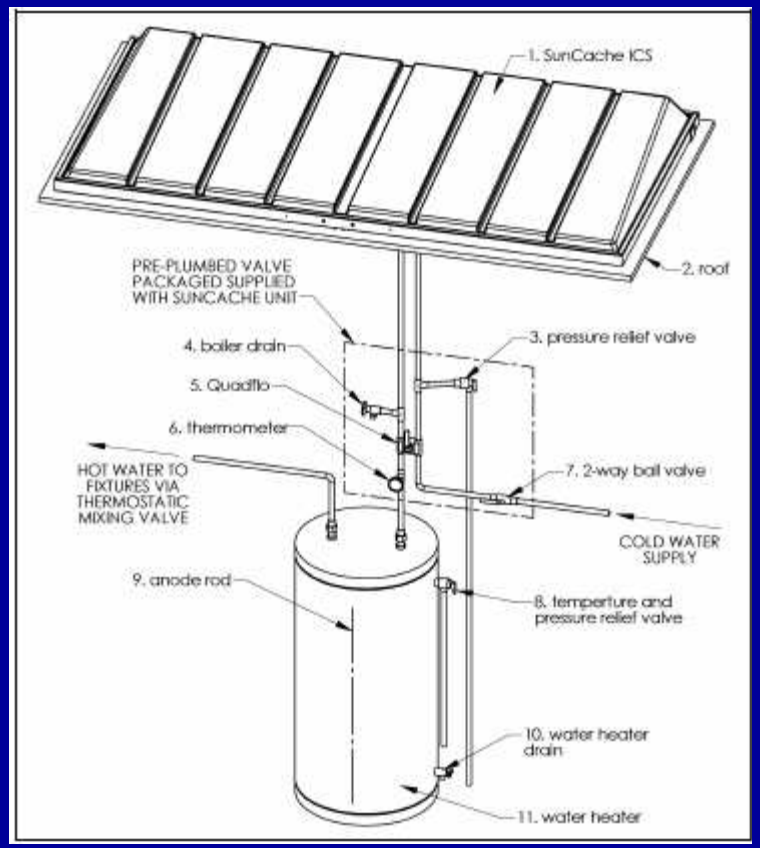


Advanced Particle Filter

Mobile Platform for Greenhouse Gas Measurements

Davis Energy Group

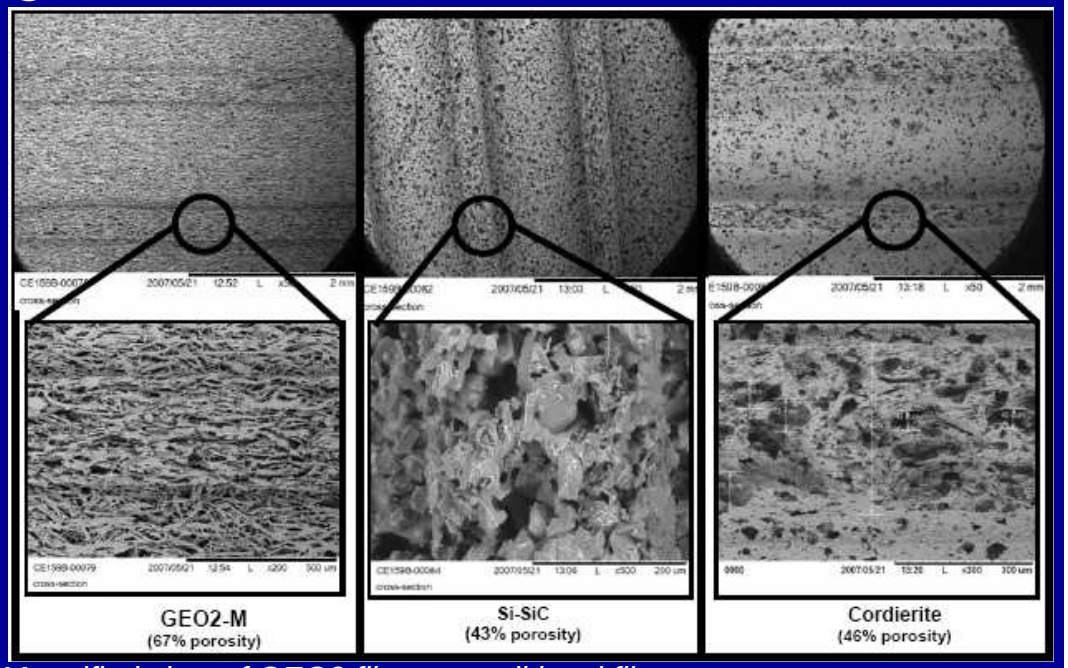
- SunCache solar water heating system
- System preheats water in conventional residential water heating systems
- ICAT Funding Request - $235,000
  Total Project Cost - $475,000
- Projected to cost less than half of other solar water heating systems
- Demonstration in San Diego Gas and Electric service area.



SunCache schematic

Geo2 Technologies Inc.

- Diesel Particulate Filter (DFP) using innovative material called mullite
- ICAT funding request - $185,000
  Total project cost - $370,000
- Permits use of DPFs on a broader range of engine applications and operating conditions
- Reduces frequency of filter regenerations
- Potential to reduce costs associated with use of DPFs
- Install in 15 off-road engines in ICAT project



Magnified view of GEO2 filter vs traditional filters

Los Gatos Research

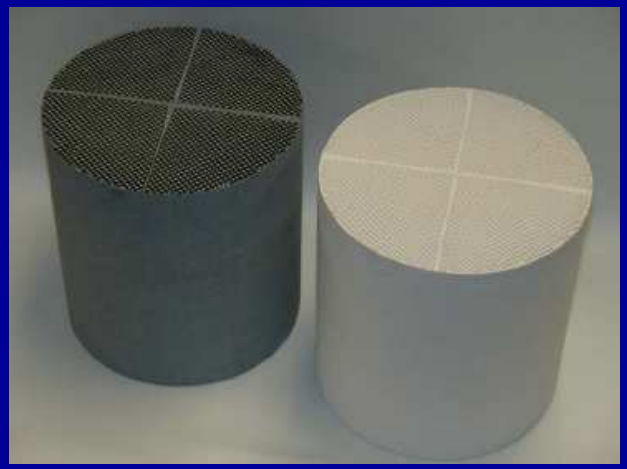
- High accuracy mobile emissions laboratory
- ICAT Funding Request - $77,996
  Total Project Cost - $257,614
- Real time measurement of CH_4, CO, CO_2, N_2O, NO_2, and stable isotopes of CO_2 ($^{13}CO_2$, $^{12}CO_2$)
- Project will demonstrate the ability of the mobile lab to obtain accurate measurements in real time
- On-board instruments are easy to use

Off-Axis Cavity Output Spectrometer

Summary

- ICAT supports new technologies
  - advances in emissions control
  - economic benefits
- 3 projects recommended
- Total ICAT funding request - $497,996
- Total Project Costs - $1.1 million

Low Cost Solar Water Heater



Advanced Particle Filter

Mobile Platform for Greenhouse Gas Measurements