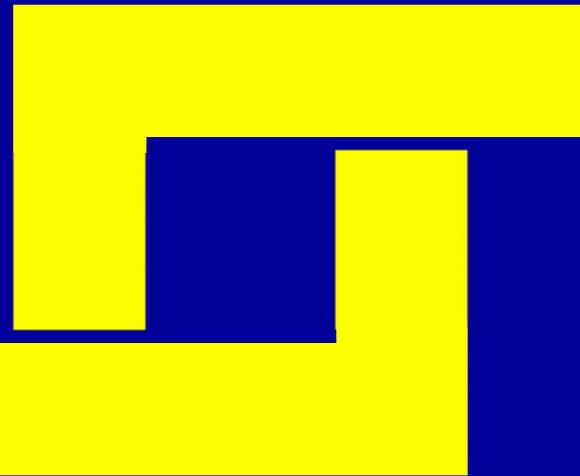


# ICAT



**INNOVATIVE  
CLEAN AIR  
TECHNOLOGIES**

December 2006

I tēpvu'ho't'R tōo kuki  
Vgejppōqīkgu''

California Environmental Protection Agency



**Air Resources Board**

# Why was ICAT Established?

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 hardware
- ICAT does not pay overhead
- Conditions on payments to grantee

# ICAT Background

- 44 projects approved since 1994
  - technologies for mobile, area, & stationary sources
  - fine PM measurement
- 27 projects complete
- 9 ICAT technologies have been commercialized

# Selecting 2006 Grantees

- Received 104 pre-proposals
- Reviewed and evaluated 20 full-proposals
- Reviews by ARB staff, SCAQMD, academic reviewers

# Review Criteria

- Technology innovation
- Emissions reduction potential
- Well-described, worthwhile project
- Commercial and economic potential

# New Grants Recommended

- 12 new grants
- \$2.6 million in total ICAT support
  - \$2.1 million ARB contribution
  - \$278,500 SCAQMD contribution
  - \$250,000 CEC contribution
- \$7 million total project value  
(including applicant's contributions)

## **Two Projects to Measure PM Emissions from Diesel Engines**

- Measurement of PM Using Electrostatic Charging – Environmental Systems Products Holdings, Inc. - \$250,000
- Measurement of Solid Carbon (Soot) Using Laser Induced Incandescence – Artium Technologies, Inc - \$200,000

# Two Projects for Marine Emissions Control Technologies

- Demonstration of Selective Catalytic Reduction and a Diesel Particulate Trap on Passenger Ferries – Engine, Fuel, and Emissions Engineering, Inc. - \$151,170
- Development of a Three-Way Catalyst for Four-Stroke Outboard Engines – Mercury Marine - \$475,000

# Three Motor Vehicle Diesel Engine Emissions Technologies

- Demonstration of Lean-NOx Trap, Diesel Particulate Filter, and On-Board Reformer – NxtGen Emissions Control, Inc.- \$200,059
- Demonstration of Selective Catalytic Reduction and Continuously Regenerating Trap for Off-Road Engines – Johnson Matthey, Inc. - \$70,000
- Demonstration of Solid Ammonia Storage System for Selective Catalytic Reduction – Extengine Transport Systems - \$157,000

# Two Non-Diesel On-Road Vehicle Technologies

- Demonstration of a Natural Gas-Fired Engine with Selective Catalytic Reduction and Exhaust Gas Recirculation – Cummins Westport , Inc. - \$250,000
- Demonstration of a Lithium-Powered Propulsion System in a Transit Bus – ISE Corp. - \$290,000

# Three Stationary Source Technologies

- Demonstration of a Laser-Based System for Stripping Paints – Institute for Research and Technical Assistance - \$200,000
- Demonstration of an Acoustic Sensor to Reduce Emissions of LPG from the Refilling of Storage Tanks – The ADEPT Group, Inc. - \$150,200
- Demonstration of a Closed-Loop Combustion Control System for Microturbine Generators – University of California, Irvine, Combustion Lab - \$215,000

# Summary

- ICAT supports useful technology
  - advances in emission control
  - economic benefits
- 12 projects recommended  
Total request – \$2.6 million
- SCAQMD and CEC plan to contribute \$528,500