Sustainable Transportation Award Winner

UC/CSU Sustainability Conference
Santa Barbara, 2006
ELECTRIC VEHICLE FLEET

• University of California, San Diego

• Campus Owned and Operated Transportation

• Jim Ruby, Fleet Manager
PROJECT DESCRIPTION

• Goal to increase sustainability of campus fleet
• Campus layout conducive to electric vehicles
  • Accessibility
  • No roads posted over 35 mph
• UCSD currently owns and operates over 225 electric vehicles
PROJECT DESCRIPTION

• Installation of LSV-100 fast chargers
  • Provide 80% of vehicle’s charge within 30-45 minutes
  • Reduces turnaround time
  • Increases vehicle availability
  • Reduces energy and associated costs to charge vehicles
    • Approximately 3 cents per mile vs. 17 cents per mile with a traditional charger

• Plans in place to install campus infrastructure
• Researching possibility of installing PV system to support fast chargers
  • Put power back onto campus grid during day
  • Pull power at night to charge vehicles when campus usage is lower
PROJECT DESCRIPTION

• Ongoing project as we work to reduce number of internal combustion engines in campus fleet
• Continue to pursue alternatives
• Recently had two NEV’s on campus to test drive
  • Roush Electric Pickup Truck
  • Columbia ParCar Summit
UCSD places a strong emphasis on sustainability

Purchased 30 Toyota Prius hybrid vehicles in 2004/05

Campus departments received some donated NEV’s
  - Ford Think
  - Global Electric Motorcar (GEM)
• Electric vehicles are more cost efficient to operate than gas powered vehicles
• If drive an average of 50 miles per week
  • $.09 per kWh = $32.76 per year to run GEM
  • $3.15 per gallon = $356.09 per year to run small truck
• Savings of $323 per year
• Roush electric pickup truck
  • Preliminary onsite campus testing
    • Between 2 - 3 miles per kWh
  • Campus rate $.09 per kWh
  • 100 miles = $3.60
    • Compare to small pickup truck at approximately 20 mpg
    • $3.15 per gallon = $15.75 to go 100 miles
BARRIERS

- Cost of LSV-100 fast chargers
  - Approximately $9,000 each
- Cost of NEVs vs. non-street legal vehicles
- Sustainability education
- Policy issues
  - Driving NEVs on pathways shared with pedestrians
  - Driving non-street legal carts on campus roads
- Departments not wanting to get rid of gas powered vehicles
  - Already paid for
  - Lease less expensive on older vehicles
  - Perception of electric being less powerful
ACCOMPLISHMENTS

- Reduction of fossil fuel use
- Reduction of emission of greenhouse gasses
  - Zero emission vehicles
- Reduction of hazardous materials
- Electric carts require less maintenance than gas powered counterparts
  - Allows resources to be redistributed to other priorities
LESSONS LEARNED

• Need to have support from the top of the organization
  • UCSD Chancellor has a GEM NEV
• Need to get buy in from departments/users that will be driving vehicles
• Offer multiple solutions so users can choose what best meets their needs
OTHER SUSTAINABLE FLEET INITIATIVES

- Currently using B-20 ULS biodiesel
- California Model P2 Shop
  - Retread tires
  - Re-refined oil
  - Recycle batteries
- Involvement with student groups
  - BAAN: Reviewing possibility of running 100% biodiesel for one shuttle bus
Contact Information

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