



*Innovation for Our Energy Future*

# Sustainable Transportation Breakout Session



**Southwest EECBG/SEP Peer Exchange**

**January 19, 2011**

**Courtney Welch**

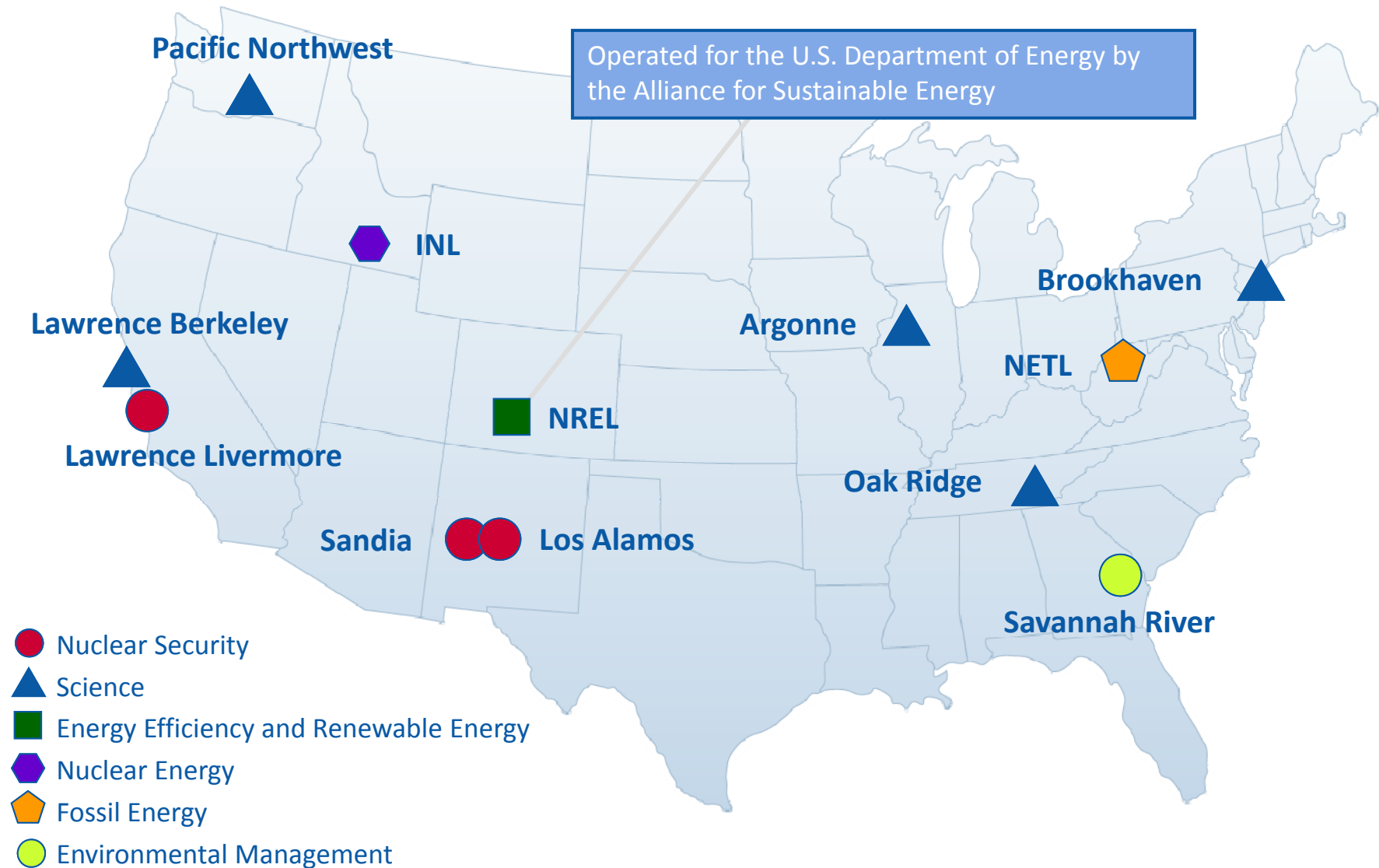
**National Renewable Energy Laboratory**

# Agenda

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- Overview of DOE and NREL programs
- Transportation technologies and programs
- TAP assistance in Transportation
- Peer Examples
- Open Discussion and Peer Exchange

# The U.S. DOE Laboratory System



# National Renewable Energy Laboratory

- Only national laboratory ***dedicated*** to renewable energy and energy efficiency R&D
  - Fundamental ***science*** to ***technology*** solutions
  - ***Collaboration*** with industry and university partners
  - Research programs ***linked*** to market opportunities
- Originally the Solar Energy Research Institute, July 1977
- Designated a U.S. Department of Energy National Lab, Sept. 1991
- Current staff of ~2000 and budget of ~\$400 million/year



# NREL Transportation Programs

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- Center for Transportation Technologies and Systems
  - Advanced Vehicle Systems Group
  - Technology Integration and Utilization Group
  - Fuels Performance Group
- Fuel Cell and Hydrogen Technologies Program
- Clean Cities Program
- Biomass Program
- National Bioenergy Center



# DOE Transportation Programs

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- Alternative Fuel Transportation Program (AFTP)
- DOE Clean Cities Initiative
- DOE EERE Fuel Cell Technologies Program
- DOE Hydrogen Sorption Center of Excellence
- FreedomCAR and Fuel Partnership

# Transportation Technologies

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## Alternative Fuels

Biodiesel (B100)

Electricity

Ethanol (E85)

Hydrogen

Natural gas

Propane

## Hybrids

Light-duty, heavy-duty

## Fuel Economy

Fuel efficiency

Behavioral changes

Vehicle maintenance initiatives

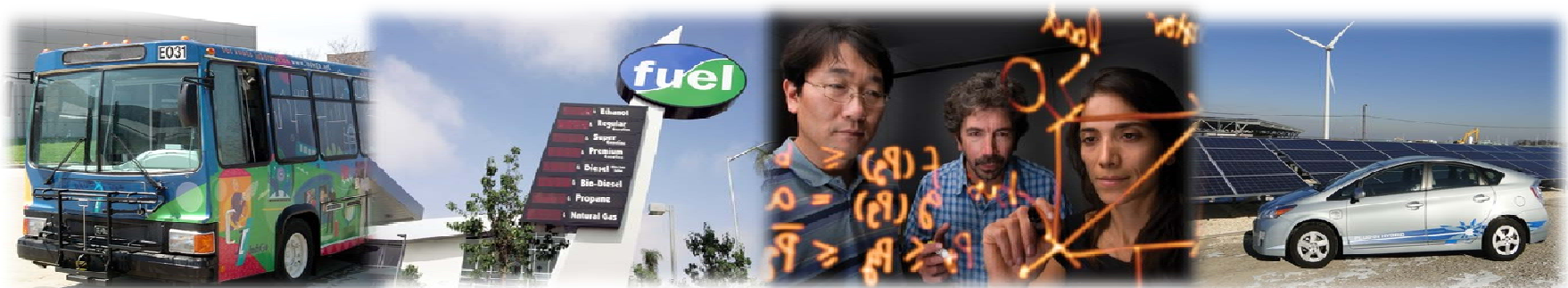
Vehicle miles traveled (VMT)

## Idle Reduction

Heavy-duty trucks

School buses

Truck stop electrification





# State and Local Transportation Programs

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- Fleet Conversion Programs
- Bike and Pedestrian Programs
- Commuter Programs
  - Carpooling and Ride-Share
  - Walking and Biking Incentives
  - Public Transportation





# Examples of Technical Assistance

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Alternative Fuels and Fleet Conversion

Anti-Idle Technologies

Bicycle Programs and Bike Path Projects

Electric Vehicles / Charging Stations

Pedestrian and Sidewalk Projects

Streetlights

Traffic Monitoring



# Peer Examples

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- Bob Yuhnke (SWEEP)
- Anaheim, CA



# Open Discussion and Peer Exchange

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- What transportation projects or programs are you currently involved in?
- What are some of the barriers you've encountered when trying to implement your program/project?
- What worked? What aspects of your project worked best: partnerships, successful collaboration, etc?
- What would you do differently?