In 2000, 2001...

- Handful of staffers
- ~$200,000
- Couple of “early adopter” fleets
  - WMATA
  - Everett School District in WA State
  - FedEx in Texas
- Several States had programs and/or funding
  - Texas, California
Federal Funding Begins in 2003 with Clean School Bus USA

- Acting Administrator Marianne Horinko launches Clean School Bus USA program

- 2003 first appropriation of $5M from Congress for CSBUSA
  - 17 grants awarded
  - 500,000 children riding cleaner buses

- 2003-2007
  - $31.5M total funding
  - ~160 grants total
  - ~3 million children riding cleaner buses
  - ~40,000 school buses involved

CSBUSA launch in Dayton, OH, 2003
Clean School Bus Gets Creative

Idling Reduction Program
~100,000 bus drivers trained

Magic School Bus Gets Cleaned Up released in 2007
National Clean Diesel Campaign Launched

- **Goal:** *Reduce Emissions from the Legacy Fleet of over 11 Million Diesel Engines*

- **Focused on Five Sectors:**
  - School Buses
  - Ports
  - Construction
  - Agriculture
  - Freight (SmartWay Transport Partnership)

*Construction Retrofit project in California*
SmartWay Transport Partnership Developed

- Goal: Promote cleaner, more efficient transportation options
  - Freight Partnership – launched in 2004
  - Light Duty – launched in 2005
  - Global Supply Chain
  - International Partnerships, sister programs
Federal Funding Continues for NCDC Projects

- 2004 First Funding for NCDC
  - $1.1 million
  - 10 grants
- 2006-2007 Appropriations
  - $7.2 M ($5M, $2.2M)
  - ~ 50 grants
- Clean diesel activity (2000-2005)
  - Emission reductions: ~20,000 tons PM  ~100,000 tons NOx
  - Approx. $5 billion in health benefits over the life of these programs
DERA Legislation Brings New Funding Source to NCDC

- Authorized by the Energy Policy Act of 2005 Sub-Title G, Sections 791-797
- $200M per year for five years; $49.2M appropriated for FY08
- Allows for “implementation” rather than “demonstration”
- 119 grants affecting 14,000 vehicles and reducing over life of program:
  - 46,000 tons NOx
  - 2,200 tons PM
  - 3 M gallons diesel fuel saved
Emerging Technologies Program

- DERA grant program for innovative, non-verified technologies
- Eligible entities apply to use technologies listed on Emerging Technologies List (www.epa.gov/cleandiesel)
- 25 grants and ~ $30 million since FY 2008
- 14 emerging technologies listed
SmartWay Finance Program

- Goal: Maximize deployment of fuel saving and emission reduction technologies in the market
  - 2006: SWT partnered with financing programs (SBA, Arkansas, Minnesota)
  - More environmental controls = Better financing rates or terms

- 2008: DERA funding supports development of financing programs to reduce fuel costs and emissions

- SmartWay Finance funding supports wide range of projects
  - Over-the-road and regional truck fleet upgrade
  - APU rebates for independent owner-operators
  - CNG retrofits of school buses
  - Retrofit and repower of port, construction, and agricultural equipment
EPA’s Regional Diesel Collaboratives

- Networking
- Project Development
- Emissions Reductions
- Community-Based Action

MCDI
- Model of collaboration
- State collaborative network
- Sets the pace for other Regions

Regional Clean Diesel Collaboratives

State collaborative network sets the pace for other Regions.
Development of Tools and Resources

- Technology Verification Program
- Diesel Emissions Quantifier (web-based calculator)
- Cost-Benefits Information, SIP Guidance
- Sector-based assistance
- Communications Tools

Cargo handler at Charleston port
Diesel SEPs: Supplemental Environmental Projects

- State and Federal SEPs contribute significant funding nationwide to diesel projects ~ $150M+
  - State SEPs continued
  - Federal SEPs disallowed due to Miscellaneous Receipts Act for several years
    - Federal clean school bus SEPs disallowed in 2004
    - Federal general diesel SEPs disallowed in 2006

- Fixed by legislation August 2008 (SB 2146); Federal diesel (both general and school bus) SEPs now permitted once again
Recovery Act Funding

- $300 M for DERA to support job creation, stimulate economy and lower diesel emissions
- > 600 applications for $ 2 billion in requests with over $2 billion in matching dollars
- 25% of funds spent; some grants already closing
- Hundreds of jobs so far created/retained

Administrator Jackson announces first ARRA DERA grants in Cincinnati, OH for school buses.
Recovery Act Projects: American Lung Association of Upper Midwest

15 trucks in Alabama owned by Robbie D. Wood, Inc. were retrofitted with battery operated air conditioners.

Owner reports increase of fuel mileage of 2.22 mpg and 41% reduction of idling time.
Recovery Act Project: Railroad
Research Foundation

- Repowering locomotives for the City of Baton Rouge, LA.
- Locomotives will be used as switchers in yard.
- Tier 2 turbo-charged 8-cylinder engine rated at 2,000 HP, which meets EPA's emission standards.
Recovery Act Project: Mississippi River Corridor – Ingram Barge

- 13 Kits on 6 Vessels
- Emerging Technology: ESW’s DOC (below) and Crankcase Ventilation System

- PEMS emissions testing by Emisstar
FY 09/10 DERA Funding - $120M

- EPA awarding grants this Spring/Summer
- Announcing grants July through the Fall:
  - 71 Regional competitive grant awards
  - 4 SmartWay Finance grants
  - 4 Tribal grants (first time through DERA)
  - 5 Emerging Technology grants
  - 51 State Grants continued from FY 08 (plus D.C.)
FY 2011

- Anticipating ~$60M again
- National competitive program
  - One national RFP
  - Target date for posting = Nov. 1st
  - Revising it now with Regional staff input
- State program continuation (amendments)
  - ~ Jan-May 2011 timeframe
Future Trends: Climate Change – Black Carbon

- Black Carbon (BC)
  - Light absorbing component of soot (PM)
  - Results from incomplete combustion of diesel fuel, wood, crop waste, biomass, etc.
Why is Addressing Black Carbon Important?

- BC contributes to climate change by absorbing sunlight, warming the atmosphere and darkening the surface of snow & ice, speeding melting.

- May be responsible for 30-50% of observed warming in the Arctic (BC emissions have a disproportionate impact on melting polar ice caps).

- BC warming effects are short-lived (unlike long-lived GHGs like carbon dioxide) so reductions of BC help mitigate warming in the near term.

- A majority of the technologies and strategies developed and promoted within the NCDC help to reduce BC emissions. So, in a sense, we’ve been pursuing these reductions all along.
Future Trends: Goods Movement

- Supply chain management
- New technologies
  - Yard Hostler and other hydraulic hybrid applications
  - Marine and off-road emissions control technologies
- Community-based/EJ initiatives

Hydraulic hybrid yard hostler
Clean Diesel 10 Conference

- October 19-20, 2010
- Washington, D.C.
- [www.epa.gov/cleandiesel](http://www.epa.gov/cleandiesel) for more info and to register

Don’t miss this ten year anniversary celebration and conference!