CSX & the Environment

Moving tomorrow responsibly
The Rail Advantage

- A single train can carry the load of more than 280 trucks.
- On average, railroads are 3 or more times more fuel efficient than the alternative.
- The U.S. EPA estimates that moving freight by rail emits three times less nitrogen oxides and particulates than alternate modes of transportation.
- If just 10% of the freight that currently moves by truck were diverted to rail instead, fuel savings would approach 1 billion gallons per year.
• Railroad **fuel efficiency has improved** an average of 80% since 1980.

• In that time, through new technology and conservation efforts, CSXT **reduced annual fuel use** by 30 million gallons.

• One piece of technology critical to this success is the CSX-patented Auxiliary Power Unit (APU) that reduces CO2 and NOx emission by 85% during locomotive idling.

• Today, a gallon of diesel fuel moves a ton of freight 161 miles further than it did 20 years ago.
• In the past 5 years, CSX has invested more than $1 billion to upgrade its locomotive fleet with more efficient, environmentally-friendly locomotives.

• By 2009, more than 1,200 CSXT locomotives will have new upgrades to further reduce emissions and reduce fuel consumption by 9.6 million gallons.
CSX Carbon Calculator is a new tool to help shippers determine potential CO2 emission reduction when shipping products on rail.

Tools

Take the Clean Air Challenge

At CSX, we are committed to moving what matters in ways that matter. We’re doing our part to protect the environment and helping Americans live better, more productive lives.

Every day that a CSX locomotive hauls freight is a day that CSX helps keep our air cleaner. Trains can move a ton of freight up to 423 miles on a single gallon of fuel. Efficient use of fuel means less greenhouse gases and carbon emissions for our nation.

We invite you to use the tool below to calculate the difference you make by choosing rail. Everyone has a role in protecting the environment, let us help you with yours.

E-mail us at CleanAir@csx.com to ship by rail and make a difference today.

http://csx.com/?fuseaction=customers.emissions_carboncalculator
Committed to Improving

- First Railroad to Join EPA’s Climate Leaders Program
- EPA Smart Way Charter Member
- Responsible Care Partner
Recognition

- EPA SmartWay Excellence Award Winner 2007
- AAR/Chafee Environmental Excellence Award Winner 5/8 years
- AAR/Professional Environmental Excellence Award 2003, 2006, 2007
- TRANSCAER Award 2006
- Recipient USEPA Clean Air Act
- Technology Award for Idle Reduction APU
CSXT is committed to continued fuel and emission reductions

**Technology Based**

- GENSET Locomotives
- 1499 Auxiliary Power Units installed as fuel savers/EPA certified kits
- 712 Automated Stop/Start installations. (452 new locomotive purchases, 260 applications to existing fleet)

**Behavior Based**

- Locomotive Shut Down Policy and Rules
- Employee Training
- Event Recorder Automatic Downloads (ERAD)
What's a Genset?

- New switch engine retrofit technology
- Older locomotive is stripped from the trucks/wheels up, removing the large 2000hp single diesel engine
- Three 700hp, ultra-clean truck diesel generators are fitted onto the platform, along with new cab and control equipment
- Emissions reduction of
  - 86% ozone precursors (smog)
  - 76% Particulate Matter
  - 20-40% reduction in greenhouse gas CO₂
- 20-40% fuel savings
- Quieter operations
Typical GENSET

GENSET#1

GENSET#2

GENSET#3

RADIATOR

SILENCER

GENERATOR

ENGINE

MOTORS

BATTERIES
Genset Projects

- Detroit 2-4
- Rochester 5
- Bronx 4
- Chicago 4
- Indianapolis 2
- Atlanta TBD
- Pittsburg TBD
- Port Elizabeth TBD
ERAD is a tool used by the Road Foremen of Engines to improve engineer performance and reduce emissions.

Event recorder data is downloaded via wireless and analyzed for rule exceptions and fuel burn.

- Fuel Monitor
- GPS
- Event Recorder
- Digital Camera
- Onboard Computer
- Satellite (Wireless Matrix)
- Cellular
- WiFi (802.11)
- Removable Hard Drive

CSX Data Center

Yard Office

Data is matched to locomotive, train and crew and scanned for exceptions.

Feedback to RFEs

Feedback to Crews

Fuel Burn

RFE
ERAD has saved over 8.5M gallons of fuel since 2005 through the road foremen’s focus on power braking

- Over 97,000 tons of CO$_2$ reduced
- ERAD will continue to be rolled out through 2009
  - Locomotive Installations -1300+ by year end
  - Entire road fleet by 2009

- Engineer Fuel Saving Program
  - Measure engineer fuel consumption
  - Identify and share best practices for fuel saving runs

- Fuel burn dashboard
CSX Intermodal is also committed to continued fuel and emission reductions

- **RFT - Radio Frequency Technologies** installed at 12 Terminals
  - Designated Parking System
  - Driving time is reduced from 53 minutes to 37 minutes
  - Reduced Pollution:
    - 42 Million grams NOx per year
    - 240 Million grams CO$_2$ per year

- **Automated Gate System**
  - Reduce idle of trucks - 91,250 hours
    - 13 Million grams NOx per year
    - 750 Million grams CO$_2$ per year

- **RMG - Rail Mounted Gantry Crane**
  - Improved safety and productivity
  - Eliminate diesel equipment at the Terminal
Embarcadero Systems Corporation
10 mph speed limit
Schematic of RMG working in Intermodal Facility
A large part of our advertising is focused on the environment – both in print...

One train means up to 280 fewer trucks on the highway. We don’t share the roads, but we can make them more enjoyable to drive.

When it’s on our rails, it’s off your roads. CSX.com
And on television.
Thank You!