

Clean Diesel Technology Powers Florida



As the world's top travel destination and a leading agricultural state, Florida's economy could not survive without the contribution of diesel-powered transportation and equipment. More than 84 million people visited Florida in 2008, accounting for a \$65.2 billion contribution to the Florida economy, the fourth largest in the United States with a GDP of \$734.5 billion.^{2,3} International trade through Florida's ports was valued at \$130 billion in 2008, a 13.7 percent increase from the previous year.⁴ In 2008, Florida passed Illinois as the fifth largest exporter in the U.S. – 4.2 percent of total U.S. exports.⁵ Many of these exports are agricultural products, which are harvested with diesel powered equipment and then processed in buildings and transported along roads built with diesel powered

construction equipment. Thanks in part to clean diesel technology, Florida has good air quality, with every county in compliance with the EPA's clean air standards.

In recent years, technological advances have brought environmental progress to the diesel industry through a new clean diesel system – combining cleaner diesel fuel, advanced engines and effective exhaust control technology. In 2006, ultra-low sulfur diesel (ULSD) fuel became available nationwide. This fuel's 97 percent reduction in sulfur levels reduces particulate matter (PM) emissions by 10 percent and has also enabled the development of more efficient engines and more effective filters. These filters are now standard equipment in new diesel vehicles and can be retrofitted on existing diesel equipment to significantly reduce emissions.

Diesel is the Backbone of Florida's Transportation System

Port/Marine Traffic: Florida ports were the seventh busiest in the nation,



handling 110 million tons of cargo in 2008.⁶ The Port of Tampa, the state's largest, contributes \$8 billion to the state economy, employs 100,000 people and is the petroleum and energy gateway for Florida and much of the southeast.⁷ There are 15 active ferries running in the state, at least two-thirds of which are powered by diesel fuel.⁸

Ground Transportation: 100 million tons of cargo were transported by rail in 2007 across 2,859 total rail miles.⁹ The Florida trucking industry is the eighth largest in the country, providing employment for approximately 46,000.^{10,11}

Transit Buses: Florida has a public transit fleet of over 2,400 buses which is almost completely (98 percent) powered by diesel

engines.¹² Miami-Dade Transit Agency is the 10th largest in the country with 893 buses, all of which are diesel-fueled. Sarasota runs all of its buses on biodiesel and 12 of Broward county's buses are diesel hybrids.¹⁴

School Buses: Florida has the fifth largest public school bus fleet in the country, with over 15,800 school buses transporting more than 1 million children each day.¹⁵ School buses in Tallahassee, Orange, Pinellas and Miami-Dade counties have been retrofitted thanks to a mix of federal and state funds.

Air Transportation: There are over 850 aviation facilities in Florida, powering the seventh largest air transportation industry in the country.^{16,17} Miami International Airport ranks third in the nation for total freight transportation (1.94 million tons in 2008) contributing \$26.7 billion to the local economy.¹⁸ Orlando International Airport ranks first in the state and 11th in the nation for passenger traffic.¹⁹ Aviation services are critical to many industries which depend on the diesel industry such as goods movement, agriculture and emergency services.



Diesel Powers Florida's Economy

- The state's construction industry was worth \$42 billion in 2008, the third highest in the country.²⁰ Approximately 513,000 workers employed the use of 123,333 pieces of diesel-powered equipment.^{21,22}

FLORIDA AT A GLANCE¹

POPULATION

18,328,340 people
4th in U.S.

VEHICLES

Total Registered: 16,461,925
Diesel Registered: 261,179
3rd in U.S.; 44 percent of light-duty alternative fuel vehicles in FL

FUEL

Total annual diesel fuel sold:
2.56 billion gallons
5th in U.S.

Biodiesel:

24 retailers, 38 distributors
and two production facilities

ENVIRONMENT

Total CO₂ emissions:
258.1 MMT
5th in U.S.

Transportation-related
CO₂ emissions:
114.6 MMT
3rd in U.S.

Nonattainment counties:

PM 2.5-0; Ozone-0



Nationwide, from 2003 to 2007, diesel-powered pick-up trucks outsold hybrid vehicles by 2.5-to-1 and saved 21 times more fuel than all hybrids combined.

- Florida's agricultural sector generated \$6.1 billion in 2008, making it the sixth largest in the country.²³ Machines such as farm tractors, combines, and irrigation pumps consumed about 73.2 million gallons of diesel fuel in 2008.²⁴
- Florida ranked third in the nation and first in the southeast for natural resources and mining.²⁵ Non-fuel mineral production was worth \$2.17 billion in 2008, the seventh highest in the country.²⁶ This entire industry depends on diesel-powered equipment, including shovels, drills and trucks.
- Emergency diesel generators are critically important in Florida due to frequent hurricanes. The state recently passed legislation requiring tall building owners and evacuation route fuel stations to have backup generator power.²⁷ Others relying on diesel generators include hospitals, mobile phone service providers and grocery stores.

Diesel Supports Public Health and Safety



- As the sixth largest fire rescue department in the United States, Miami-Dade Fire Rescue (MDFR) maintains 65 fire rescue stations and more than 100 emergency fire trucks and vehicles.²⁸
- Hillsborough County Fire Rescue and EMS manages more than 70 fire and emergency vehicles and responds to more than 80,000 calls each year.²⁹
- More than 2,900 ambulances are used across the state.³⁰ These and all emergency vehicles are virtually exclusively powered by diesel engines because of their durability and reliability.



Clean Diesel Passenger Cars Arrive in Florida

- New clean diesel passenger vehicles that meet the nation's strictest emission standards and qualify for federal tax credits have been available in Florida since 2008.
- Heavy-duty pickup trucks purchased throughout the country between 1994 and 2007 will save the United States 48 billion gallons of fuel. This is the fuel equivalent of removing 7.5 million cars from the road and the CO₂ equivalent of removing 42 natural gas plants from the electric grid. In Florida, this accounted for \$3.4 billion in fuel savings.³¹
- From 2003 to 2007, Florida heavy-duty diesel pick-up drivers saved nearly 25 times more on fuel costs than the state's hybrid passenger car drivers (\$222 million vs. \$9 million).³²
- Nationally, if diesel vehicles made up 15 percent of the passenger fleet, they would save 17 billion gallons of fuel, 413 million barrels of oil, and 205 million metric tons of CO₂ by 2038.³³

Florida Policymakers Recognize the Value of Clean Diesel Technology

- In Florida the idling of heavy-duty diesel vehicles is limited to five minutes. The Florida Department of Environmental Protection created a Clean Diesel Rebate Program to help owners of Class 8 commercial trucks purchase auxiliary power units to comply with the law.
- Florida developed its Clean School Bus Program with the help of funds received under the U.S. Environmental Protection Agency's State Clean Diesel Grant Program.
- The "Farm to Fuel" initiative promotes the production and use of renewable energy from crops, agricultural waste, and other forms of biomass. The Florida Department of Agriculture and Consumer Services maintains a list of biodiesel retailers on its website.³⁴

DIESEL EFFICIENCY 20-40 percent more fuel efficient than gasoline counterparts

USE OF BIODIESEL Using a B20 blend can reduce CO₂ emissions 15 percent

RETROFIT EMISSION REDUCTIONS Diesel retrofit technology can reduce emissions between 25-90 percent

DIESEL HYBRID BENEFITS³⁵ 43 percent fuel economy benefit
42 percent lower maintenance costs over CNG transit buses

To view references and additional information, please visit www.dieselforum.org/Florida



www.dieselforum.org



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