ENVIRONMENTAL RESPONSIBILITY

Partnering with our customers and our communities to become even more sustainable.

THIS IS BNSF

Clean Technology

In order to pilot emissions-reducing technologies in and around railyards, BNSF, along with the San Joaquin Valley Air Pollution Control District, was awarded a $22.6 million grant from the California Air Resource Board. As part of the program, BNSF will partner with Wabtec Corporation on developing and testing a battery-electric locomotive. This innovative locomotive will be tested while paired with diesel locomotives to power a freight train traveling from Stockton to Barstow, California. The battery-electric locomotive is expected to store 2,400 kilowatt-hours of power and could reduce a freight train's total fuel consumption by 10 to 15 percent.

BNSF also continues to invest in other sustainable technologies, including:

Idle Control

Electric Wide-Span Cranes

Electric Hostlers

Automated Gates at Intermodal Facilities

More Fuel-Efficient Tier 4 Locomotives

Customer Carbon Reduction

By converting their shipments from trucks to trains, BNSF customers are significantly decreasing their carbon footprints. A single double-stack intermodal train removes several hundred long-haul freight trucks from the highway. No other form of land freight transportation is more fuel- and resource-efficient than rail. Rail also provides environmental benefits by reducing our country's overall transportation emissions and carbon footprint.

In 2018, shipping with BNSF enabled our customers to reduce their total carbon emissions by 35.4 million metric tons.

This carbon savings is equivalent to:

7.5M+  **VEHICLES** annually

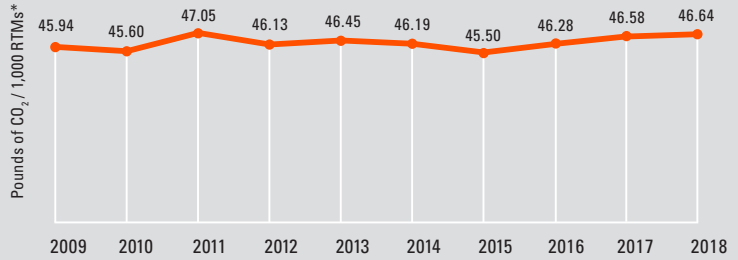
41.6M+  **ACRES** of CO_2 sequestration by U.S. forests in one year

Source: U.S. EPA's Greenhouse Gas Equivalencies Calculator

Reduced BNSF Emissions

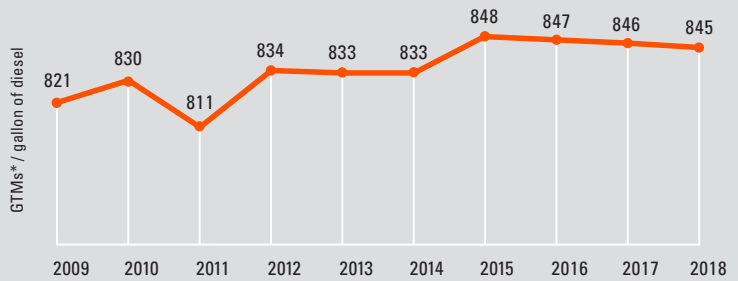
Over the last decade, BNSF has upgraded the majority of our locomotive fleet to more energy-efficient technologies. This helps us increase fuel efficiency and decrease CO_2 and particulate emissions. Improvements in operations and maintenance practices also contribute to enhanced fuel-efficiency.

CO_2 Emissions from Train Operations



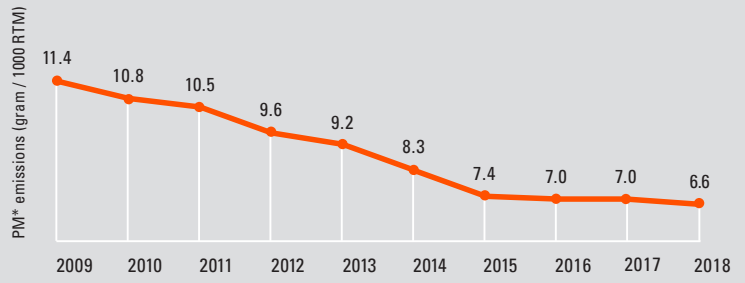
*Revenue ton mile (RTM) is the weight of our customers' freight multiplied by the miles traveled.

Fuel Efficiency



*Gross ton miles (GTMs) are the weight of the train (minus the locomotive) multiplied by the miles traveled.

Diesel Particulate Emissions



*Particulate Matter (PM) is a mixture of solid particles and liquid droplets found in the air.

Recycling

Recycling efforts further reduce BNSF's environmental impact. Materials recycled in 2018 included approximately:

3M
Railroad Ties

1M
Pounds of Batteries

5.2M
Gallons of Lube Oil

Legacy Site Rehabilitation

BNSF is actively addressing environmental impacts at legacy sites – places where predecessor railroads and others may have conducted operations for up to a century. In the last decade, BNSF has rehabilitated approximately 205 sites and invested approximately $470 million toward remediation efforts.