



BUILDING AMERICA®

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Innovation long has been at the core of Union Pacific's ability to connect a nation.

Steam engines powered by wood and coal have given way to 200-ton diesel-electric locomotives that can move a ton of freight nearly 500 miles on a single gallon of diesel fuel. As Union Pacific approaches its 150th anniversary, innovation and technology remain critical to making the railroad one of the safest, most reliable, fuel-efficient and environmentally responsible modes of freight transportation.

In 2010 alone, Union Pacific:

- ▶ Improved fuel efficiency by 3 percent, saving more than 27 million gallons of diesel fuel;
- ▶ Increased by 8 percent the number of gross ton freight miles moved by distributed power technology, which generates fuel savings and fewer emissions. Distributed power also enhances train safety by reducing physical forces on the train; and
- ▶ Delivered 13 percent more carloads per day while using only 8 percent more train miles versus 2009.

In August 2010, we opened our Joliet Intermodal Terminal near Chicago. This \$370 million investment enhances our ability to serve our customers by using advanced computers and technology, which coordinate movement in the terminal to improve productivity and performance while reducing emissions. The facility also strengthens the surrounding community by creating more than 8,500 permanent jobs.

Solar technology is commonly used across Union Pacific's 32,000-mile, 23-state network to provide power for track circuits, detector fences and intermediate signal locations.

Union Pacific pioneered the industry's Genset locomotive technology, which reduces greenhouse gas emissions by as much as 37 percent compared to older locomotives. With 165 Gensets in our fleet, we operate more than half of all Gensets in service in the United States.

Our sustainability efforts reach into our information technology systems, where we revised our data center layout to reduce power demand and implemented energy-efficient HVAC and building automation controls, power management software and server virtualization. Since 2008, Union Pacific has increased computing by almost 200 percent and disk storage capacity by close to 700 percent while decreasing energy consumption in the data center by nearly 14 percent.

Union Pacific continues to develop and implement innovative technologies to support sustainable facilities and operations, improve reliability and customer service, and build upon our reputation as one of America's premier companies.



Jim Young

Jim Young
Chairman and CEO