

# Wind and rails: America's small railroads deliver clean power and energy

Around the globe, wind power is quickly becoming the new 'golden boy' in the drive to develop renewable energy. In the US, short line and regional railroads are playing an increasingly important role in the development of wind power sources, by transporting the large and specialized equipment used by wind farms. In this exclusive feature, Richard F. Timmons, President, American Short Line and Regional Railroad Association, explores this booming sector.





America's more than 550 short line and regional railroads operate over 50,000 miles of track, nearly 30% of the nation's total railroad mileage. They employ nearly 20,000 people and support local economies by providing competitive rates and fuel efficient shipping to businesses around the country.

Operating in 49 states, America's short lines bring efficient, reliable rail service to thousands of communities. Short lines are a feeder system for the large Class I railroads, picking up or delivering one out of every four rail cars moving on the national freight rail network. They serve over 13,000 facilities and haul over 14 million carloads per year.

"For large areas of the country, and particularly for small town America, short lines are the only connection to the national railroad network," says Rick Webb, CEO of WATCO Companies, which owns 19 short lines. "My Kansas grain customers cannot make the journey to export markets in the Gulf without Class I railroad service. But they can't start the journey without short line service."

Short line railroads provide fuel savings and environmentally friendly shipping for small businesses and communities around the country. They provide efficient transportation services, while maintaining and protecting the environments in which they operate. Railroads consume almost a third less fuel than trucks per ton mile moved and one rail freight car can carry one ton of cargo 436 miles on one gallon of fuel.

In the U.S., wind energy continues to grow in popularity, along with the development of wind turbine components at many manufacturing locations around the country. Today there are approximately 25,000 wind turbines operating across the U.S., the majority of which are located on relatively large wind farms. New farms are rapidly being built to meet the increasing demand for alternative energy solutions. Wind farm components must be transported from the ports or manufacturing facilities to the wind farm locations – and that is where the short lines come in.

RailAmerica, Inc., of Jacksonville, Fla., is one of the nation's leading operators of short line and regional railroads. Two of RailAmerica's short lines are playing a prominent role in the growth

of wind energy. The Carolina Piedmont Railroad serves the GE wind turbine plant in Greenville, S.C. The railroad moves between ten and twelve wind turbines every week. The short line railroad moves the turbines 35 miles from Greenville, S.C. to Laurens, S.C., where it interchanges with a larger, Class I railroad, CSX, for transportation to its destination.

The GE wind turbines are very large and expensive pieces of equipment. The price of one turbine is \$2 million to \$3 million. They require specialized railcars, and due to their size, may only be transported along a limited number of rail corridors. As the Carolina Piedmont's General Manager is proud to say, "Each week, my short line is moving a wind turbine train worth more than \$30 million."

GE's Greenville, S.C. facility is one of the largest wind turbine producers in the country. Prior to 2000, the Carolina Piedmont Railroad was a short line railroad with very lightweight jointed rail that could not accommodate the heavy gas turbines that were, at the time, the plant's primary product. The Carolina Piedmont Railroad teamed with GE to upgrade the track to much heavier weight welded rail and improve tie and ballast conditions so they can now accommodate and safely transport the large gas and wind turbines. From Laurens, S.C., the GE wind turbines are transported to wind farms located in the Midwest and Southwestern parts of the country.

RailAmerica's Toledo Peoria & Western Railway is the terminating railroad for all the wind turbine components manufactured by Vestas Corp., the world's largest producer of wind turbines. The Toledo Peoria & Western Railway receives the wind turbine components at various locations in Illinois and Indiana from Class I railroads, BNSF, Canadian National, CSX and Union Pacific. The Toledo Peoria & Western then moves them to its transload facility in Remington, Ind.

In Remington, the short line leases storage and distribution space to Vestas, which then trucks the final components to the wind farm in Fowler, Ind. When completed, this wind farm will produce 400 megawatts of electricity and represents a 300% increase in Indiana's total wind power capacity.

Short line railroads often carry a product the first or last mile of its journey on the



national railroad network. Vestas produces its wind turbine blades in Windsor, Colo., and those blades are moved out of the plant to the Class I railroads by the Great Western Railway of Colorado, a short line railroad managed by OmniTrax, Inc. of Denver, Colo.

The Vestas plant in Windsor currently manufactures 1,800 blades a year. In 2007, the Great Western Railway made a multimillion-dollar infrastructure investment that enabled the railroad to handle this large, expensive equipment. The railroad added rail infrastructure consisting of an industrial track built into the main line track and other infrastructure changes needed to handle the longer rail cars.

Down the road in Lawton, Okla., a short line railroad, Farmrail provided the final leg of rail transportation for components used in Phase Two of the Blue Canyon Wind Farm near Lawton, which produces 225 megawatts of power from 129 Vestas turbines.

Farmrail also expects to participate in supplying the components to a number of new wind farms in Western Oklahoma, which are currently in the planning stages. The Oklahoma Chamber of Commerce advertises that the state, currently ranked ninth nationally, has enough potential wind resources to supply 10% of the country's electricity needs.

A short line in California is playing a key role in bringing wind energy to the U.S. from around the world. The Central California Traction Company serves the Port of Stockton, one of the only ports that can handle oversize and heavy project cargos. The Port of Stockton is unique in that it has two 6,000 foot on-dock tracks that allow wind tower components to be directly discharged from a vessel to a railcar, thus reducing the cost and time of transport. Since 2007, the Central California Traction Company has moved over 3,000 railcars of wind farm components. Over 750 wind towers have been shipped to points across the U.S.

Some of the wind farm components that are moved through the Port of Stockton by the Central California Traction Company are bound for the Iowa Northern Railway. The Iowa Northern Railway's Manly Terminal is a distribution center for wind turbine components. Generators, hubs, blades, and tower sections are hauled into Manly Terminal from ports and manufacturing facilities all over North America. The Iowa Northern Railway is home to this 20 acre hub, where components from nine different manufacturers are collected and then trucked to their final destinations, wind farms in Iowa and across the Midwest. Currently, the Manly Terminal provides the components for 20-30 wind farms.

The Iowa Northern Railway is also establishing a much larger 160 acre

logistics center, which could handle up to 6,000 carloads of wind turbine components in 2009 and 8,000 carloads in 2010. According to Dan Sabin, President of the Iowa Northern Railway Company, "we expect to see long-term growth in this industry, as wind farms continue to be built and maintained over the coming years."

RailAmerica's President and CEO John Giles explains the important role of short line railroads in the expansion of wind energy solutions: "First, it shows that short line railroads are fully capable of providing the service and capital investment needed to accommodate large companies with specialized transportation needs, and to do so in a seamless fashion with our Class I partners. Second, it puts focus on the short line industry's inherent geographical advantage. More and more companies are building significant manufacturing facilities in less densely populated areas where short lines are the only connection to the national railroad network."

While America's short line and regional railroads continue to provide energy efficient transportation to businesses and communities across the U.S., they are also becoming a prime mover of one of the fastest growing sources of renewable energy. Short line railroads will continue to connect America's communities, strengthen our economy and protect our environment.

# Transporting wind energy components on rail is cheaper and safer than transporting by truck

Richard F. Timmons, President, American Short Line and Regional Railroad Association, on wind power, the state of the industry, and the 'greening' of rail...

**PES:** Thanks for your contribution to PES. Can you tell us a little more about your association and the services you provide?

**Richard F. Timmons:** The American Short Line and Regional Railroad Association (ASLRRA) represent America's small railroads. We represent over 550 or short line and regional railroads, which operate over 50,000 miles of track, employ nearly 20,000 people and support local economies by providing competitive rates and fuel efficient shipping to businesses around the U.S. ASLRRA represents the interests of these railroads before Congress, Federal, and State regulatory agencies and on the policy and technical committees of the U.S. railroad industry.

**PES:** How is rail suited to the particular challenges of transporting (often massive) wind turbines?

**RFT:** In many areas and communities around the country, short lines are the only link to the national freight rail network. If the larger, Class I railroads don't operate in a location, the short lines there carry the goods and materials to and from the interchanges with the larger railroads. This allows small, local businesses to access world markets as well as allows large manufacturers to build their facilities in rural communities, bringing jobs and economic benefits.

So, short lines are uniquely positioned to transport many of the materials needed to develop wind power sources, such as the wind turbines and blades. As noted in my article, some short lines around the country are providing transport for the manufacturers of the components or the developers of the wind farm.

**PES:** We understand that the wind sector is carving out a new niche within the transport industry – have your members found this to be the case? Can you give any examples?

**RFT:** Certainly, many short lines are working with the wind turbine and

blade manufacturers in transporting the oversized and heavy pieces that require special rail equipment, track and clearance procedures. My article highlights some of these railroads and details how they are working to provide safe and efficient service to their customers.

**PES:** Is it a market that members are aggressively pursuing?

**RFT:** There are only a limited number of manufacturing facilities that produce the components for these wind farms and transporting the components requires highly specialized equipment. If a short line exists in proximity to a manufacturing facility or wind farm, the railroad would pursue that business. As we've seen already, the short lines work well with the manufacturers to upgrade their track, should it be necessary to haul larger and heavier loads.

**PES:** What are the advantages of transporting freight over short line railroads as opposed to road, say?

**RFT:** The trains that haul the wind turbines and blades have specialized equipment that may not be widely available in the trucking industry. Also, transporting wind energy components on rail is cheaper and safer than transporting by truck. Trains can haul larger loads a longer distance on less fuel.

**PES:** What is the state of your industry as a whole?

**RFT:** As the economy has slowed, freight volumes have fallen with the decreased demand for the commodities shipped on short lines. However, this is a regional and commodities based industry. Some short lines are prospering and doing well; others have seen little change; and some short lines are suffering due to the downturn.

Being in such tough economic times reminds us how investment in our railroad infrastructure is key to expanding efficient, cost-effective and environmentally friendly

shipping via rail to new sectors like the wind energy industry.

**PES:** How 'green' is rail? Is there a programme of improvement in this area?

**RFT:** Short lines provide efficient transportation services, while maintaining and protecting the environments in which they operate. America's short line railroads provide fuel savings and environmentally friendly shipping for small businesses and communities around the country.

In fact, one rail freight car can carry one ton of cargo 436 miles on one gallon of fuel. Railroads consume almost a third less fuel than trucks per ton mile moved and short lines take the equivalent of nearly 33 million truck loads off U.S. highways. Diverting those truckloads from the highways improves highway safety and congestion and saves the country over \$1.4 billion annually in highway repair costs.

Short line and regional railroads are committed to protecting and preserving the environment by reducing greenhouse gas emissions. Many local railroads are utilizing innovative locomotive technologies that significantly reduce emissions and some are using cleaner, alternative fuels, such as biodiesel. Short line and regional railroads also serve over 30 ethanol plants across the U.S.

**PES:** How does the fluctuating price of oil impact upon your business? Are rising prices a threat to the future of the industry?

**RFT:** The rising cost of fuel is part of the reason we're in these tough economic times. Rising oil prices does hurt short lines and it means the short lines pass on additional costs to their shippers. ▀

For more information about America's short line and regional railroads, please call 202-625-4500 or visit the website, [www.aslrra.org](http://www.aslrra.org)