Seeking a Pacific Northwest Gateway for U.S. Coal

A coal train chugs past the waterfront at Marine Park in Bellingham, Washington. A new port planned for north of the city would ramp up rail traffic as coal would be hauled through here nine times daily from Wyoming and Montana for a seaward journey to Asia.

_Photograph by Paul K. Anderson_

Stacey Schultz in Bellingham, Washington
For National Geographic News

Published October 20, 2011

Bellingham, Washington, is admired for its green power purchases, its
innovative building efficiency program, and the "buy local" ethos of its bustling Saturday farmers' market.

But the fossil energy world now has its eye on this small coastal city just 20 miles (32 kilometers) south of the Canadian border (map).

Plans are under way for a $500 million marine terminal that would make Bellingham a gateway to energy-hungry Asia for the U.S. coal industry. As many as 18 new freight trains per day would run back and forth from the Powder River Basin of Wyoming and Montana to carry coal to the new port. The tracks pass just a few hundred yards from the craft and vegetable stands of the Bellingham farmers' market.

At standing-room-only panel discussions and rallies, Bellingham residents—including the mayor of this city of 81,000—are focused on the noise, pollution, and traffic congestion raised by the Gateway Pacific Terminal project. Meanwhile, port operator SSA Marine emphasizes the promise of 1,250 permanent jobs and $200 million annually in new economic activity.

But the coal industry and outside environmental activists, each in a quite different way, see global issues at stake on Cherry Point, the stretch of rocky beachfront north of downtown.

Energy is "a sector of the economy where we're used to being takers and not givers," says Vic Svec, senior vice president for investor relations at Peabody Energy, the world's largest private sector coal company, which is seeking to be a major exporter here. "Coal is an area where the United States has abundant resources, and we can improve our trade balance by exporting a component of that."

Author and climate activist Bill McKibben, founder of the group 350.org, has urged Bellingham to block this new potential avenue for global fossil fuel trade as a last line of defense for the atmosphere. "Powder River Basin is one of earth's great carbon bombs, and the fuse seems to run through Cherry Point," he said.

Unlikely Coal Town

Not long ago, Bellingham was raking in recognition for becoming one of the only communities in the United States to wean itself entirely from electricity generated from fossil fuels.

The city received a Green Power Leadership Award from the U.S. Environmental Protection Agency in 2008. With the help of high-profile solar projects like the rooftop of its Environmental Learning Center, and hydroelectric power from Puget Sound Electric, the city of Bellingham and surrounding Whatcom County were purchasing enough green power to meet 100 percent of the area's electric loads.

The Natural Resources Defense Council has named Bellingham a "smarter city." And last year, it was one of three U.S. cities honored by the international group ICLEI-Local Governments for Sustainability, for a program that makes building-efficiency upgrades and weatherization projects more affordable by aggregating customers for loans and contracts with installers.

But Bellingham's economy has suffered with that of the rest of the nation, with unemployment about 9 percent
this year. SSA Marine promises to make the Gateway Pacific Terminal project the largest shipping, stevedoring, and warehousing facility on the West Coast of the United States. The port company says it would be a portal for grain, potash, and other commodities as well as coal. Over two years of construction, the project would provide jobs for an estimated 3,500 to 4,000 workers.

"This is a challenging thing to say no to," said Bellingham Mayor Dan Pike. "There are people hurting in this community, people who have been out of work for a year or more who can't find work."

But the city has long been mapping a plan to redevelop its waterfront, which had been dominated by a wastewater treatment lagoon used by a Georgia Pacific pulp and paper mill that was closed a decade ago. City leaders envisioned retail, housing, park space, and trails, to create an eco-friendly magnet for commerce. Pike fears all of that would be jeopardized by the constant flow of mile-and-a-half-long (2.4-kilometer-long) freight trains on tracks that essentially block the waterfront area from the rest of the city. And Pike doubts that the coal port would ultimately provide as much long-term employment as promised.

"Why would we risk 10,000 jobs for a few hundred?" he asks.

A Port's Deep Appeal

The redevelopment plan, which will require major environmental remediation and private investment, would take 40 to 50 years to be fully realized, its advocates say. Meanwhile, the Gateway Pacific Terminal could be constructed within two years after completion of a permitting process that is also expected to take two years.

Some coal freight traffic-about six trains per day-passes by the waterfront, from the Powder River Basin 1,000 miles (1,610 kilometers) to the east en route to and from British Columbia. The port site at Cherry Point, about 16 miles northwest of the waterfront, is especially appealing because of its deep water shipping potential. This would allow for use of large "Capesize" vessels that can ship commodities in volume across the ocean more efficiently than smaller vessels.

Currently, coal port access to Asia from the United States is limited. Some coal travels through terminals in British Columbia, most notably through the Westshore Terminal at Roberts Bank, which moves about 21 million metric tons per year. Two other B.C. terminals, Neptune and Ridley, move an additional eight million and roughly nine million metric tons respectively. However, most is high-grade "metallurgical" coal-used in steelmaking-mined in Canada, according to a report from Sightline Institute, a Seattle-based think tank that focuses on sustainability issues.

A Bellingham terminal would position Peabody Energy to export subbituminous coal, also known as "steam" coal, to Asia from its vast Powder River Basin (PRB) holdings. This coal is low in sulfur and tailor-made to meet the voracious and increasing Asian demand for coal to generate electricity-especially in China, which Peabody told investors in July was its cornerstone for growth.

Peabody already has an agreement to export 24 million metric tons of coal per year from the proposed port, a figure that alone would mark more than a fivefold increase in U.S. steam coal exports. But those shipments would be poised for expansion, as the Gateway Pacific project would be built to handle 54 million metric tons
annually of commodity exports.

"As we look at the PRB," Peabody Chairman and Chief Executive Officer Gregory Boyce told investors, "we see the long-term export potential."

Currently Asian markets, which also include India, Korea, Taiwan, and Japan, import 140 million tons per year of subbituminous coal, all from Indonesia. Within just four years, Peabody estimates demand will skyrocket 80 percent to 250 million tons annually.

In Peabody's view, that coal is going to come from somewhere.

"It's safe to say that not one more pound of coal will be used in Asia because of this terminal," says Svec. "The question is, should Asia use more coal from Indonesia or should they use more coal from Indonesia and the United States?"

Although the United States leads the world in coal reserves, less than 10 percent of the U.S. coal produced last year was exported. Less than 1 percent, about 4.4 million metric tons, was steam coal bound for Asia, but that marked a dramatic 438 percent increase over 2009. This year, U.S. coal exports are at their highest level since 1992, and analysts believe the figure would be larger if export routes were available.

In addition to the Bellingham project, Arch Coal, the No. 2 U.S. producer, has acquired a 38 percent interest in the proposed Millennium Bulk Terminals along the Columbia River in Longview, Washington. Ambre Energy, an Australian coal company, is also involved in the project, while it explores mine acquisitions in the Powder River Basin.

All of the focus on coal exports comes at a time of flagging trends in U.S. coal consumption. Although U.S. coal demand rebounded partially in 2010 from recessionary lows, the share of the nation's electricity generated by coal during the first three months of 2011 was at its lowest first-quarter level in more than 30 years, at a 46 percent share of total generation, according to the U.S. Energy Information Administration (EIA).

That share likely will erode further, as EIA projects 60 percent of the new electric generation capacity to be built in the United States by 2035 will be fired by natural gas. Because new technology has made natural gas in abundant supply in the United States, and it burns cleaner than coal, EIA forecasters project that natural gas will continue to be the fuel of choice for new generation.

**New Avenue for Emissions?**

A shift away from coal, which has long supplied half of U.S. power, is a triumph for environmental groups like the Sierra Club, which has led a campaign against the development of new coal-fired power plants in the United States. But climate activists fear the victory will be a Pyrrhic one if the coal passed over by U.S. electric generators ends up being burned in China instead. Despite Peabody's arguments to the contrary, they are convinced that additional access to coal on the international market would in fact increase consumption of the carbon-intensive fuel in Asia.
Researchers at Sightline Institute argue the port would contribute to additional competition in the international coal market, which would in turn put downward pressure on Asian coal prices. "The lower prices and costs brought on by that competition will encourage a greater commitment to coal-fired generation in Asia and will discourage the adoption of coal- and electricity-displacing improvements in technology," wrote Thomas Power in an economic analysis of U.S. coal exports to China. "Asian coal consumption will be increased over what it otherwise would have been if PRB coal was not actively competing for a share of Asian coal markets."

McKibben, who spent much of the summer organizing protests in Washington, D.C. against increased U.S. imports of oil from Canada's tar sands, called on Bellingham residents to join in another battle against increasing fossil fuel trade.

"You guys are going to have a year's worth of a good hard fight on this coal port," he said at a rally here. "You'll be talking about things close to home and you should be thinking about your air and your streets and your bay . . . but you also need to keep some corner of your mind open for what people everywhere else in the world are going to go through if that coal makes it out of Montana and Wyoming and gets burnt, if that carbon gets poured into the atmosphere."

Any effort at Bellingham to hold back China's coal-burning would be an ambitious one indeed. In 2009, China dramatically reversed its global position from coal exporter to importer. Seemingly overnight, Chinese imports accounted for nearly 15 percent of all globally traded coal, according to researchers at the Stanford Program on Energy and Sustainable Development.

"The middle kingdom's appetite for imported coal seems insatiable," wrote researchers Richard K. Morse and Gang He in a 2010 working paper, referring to China. "And the 'China Factor' appears to have ushered in a new paradigm for the global coal market."

To try to shift that paradigm now as the world's most populous nation seeks to continue to fuel its tremendous growth would be a daunting challenge. But at least one part of that battle is now under way at Bellingham, where climate activists are pinning their hopes on the small city's record of environmental concern. "There's probably no town in America that's done a better job of figuring out and leading us down the path of local economies taking responsibility," McKibben told the crowd in his visit here. "Maybe in some ways this is the perfect place . . . for you all to take what you've done on the local level and demonstrate it on a global level in just the same way."

This story is part of a special series that explores energy issues. For more, visit The Great Energy Challenge.