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Energy Enclave

A slew of renewable energy projects are about to get under way at locations throughout the Rockies.

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Construction will likely begin this fall on the Montana Alberta Tie transmission line, a 214-mile (345-km.) conduit that will stretch from Great Falls, Mont., to Lethbridge, Alb. It bodes well for the future of wind energy in Montana: All of the line capacity for the US$134 million (C$150 million) project has been allocated to wind-power projects.

Bob Williams, vice president, regulatory, for transmission line developer Montana Alberta Tie Ltd. (MATL), a division of Toronto-based Tonbridge Power Co., says the project has cleared the permitting phase and MATL is finalizing financial arrangements. It will be the first transmission line between Montana and Alberta.

"We hope to begin construction this fall, and it will take roughly a year to complete," William says.

NaturEner, a Spain-based renewable energy firm, has committed to the northbound line while energy companies Invergeny Montana and Wind Hunter have signed up for southbound transmission, Williams says.

Construction will begin later this year on the Montana Alberta Tie transmission line, which will move wind energy north and south across the border.

The line will help Montana capitalize on its great wind energy potential, most of which lies in the vast two-thirds of the state east of the Rocky Mountains. The state ranks fifth in the U.S. and first among Rocky Mountain states in wind energy potential. Montana has about 1 trillion kilowatt hours of potential, according to assessment by the Pacific Northwest Laboratory. More than 50 wind-related projects are now in various stages of development.

"We have had some pretty significant developments in the last few years," says Chantel McCormick, senior energy development specialist for the State of Montana. "In January of 2005, we had 1 MW of wind power. Now we are at 271 MW with several hundred more on the way. By the end of this year, we could be up to 800 to 1,000 MW online."

With its vast wind power potential, Montana would seem a logical state to land a wind turbine manufacturing facility. State and local officials are optimistic that the proposed manufacturing facility by German firm **Fuhrlander** will become a reality.

Fuhrlander announced in March 2008 that it would invest $25 million to build a plant in Butte that would initially employ 150 and could potentially employ 600 more if the company expands into blade manufacturing at the site. Fuhrlander said it selected the Montana site due to the state's political support, available labor and good transportation system.

The project has since been delayed and remains on hold due to global economic conditions, says Jim Smitham, executive director of the Butte Local Economic Development Corp. The project may now be looking at a 2010 construction start, he says.

"We are confident it will move ahead," McCormick says.

Montana's biggest energy-related project, the Many Stars Coal-To-Liquid Project on the state's Crow Reservation, passed a significant milestone in mid-April when the Crow Tribe and developer **Australian-American Energy Co.** signed final project documents for a planned $7.5 billion coal-to-liquids project.

Abound Solar, a spinout company based on technology developed at Colorado State University, plans to employ 300 at its new solar panel facility in Longmont, Colo.

Developers say the project, due to be operational in 2016, will produce 50,000 barrels per day of clean liquid fuels from tribal coal resources. Mining consultant John T. Boyd Company has been hired to manage planning and execution of the next phase of coal exploration.

Colorado Cluster

Colorado continues to solidify its collection of renewable energy companies. The presence of wind turbine builder Vestas in the state has attracted composites specialist **Hexcel** to land in the same industrial park in Windsor as the Vestas wind blade facility which opened in 2008. Hexcel officials say they located their first U.S. wind energy-related plant in the Great Western Industrial Park to supply Vestas. The plants are about a mile (1.6 km.) apart.

Hexcel's new facility, due to open in September, will manufacture epoxy resin "prepregs," or pre-impregnated materials, which are specially formulated resin matrix systems that are reinforced with man-made fibers such as carbon, glass and aramid. Hexcel has not revealed how many people will work in the 100,000-sq.-ft. (9,260-sq.-m.) plant.

"We've hired our first group of operators, and they were sent to our plant in Austria to be trained on the type of equipment we will use," says George Thompson, Hexcel's project manager for the Windsor plant.

Thompson says economic conditions will dictate how quickly the plant, which is being built to handle future capacity needs, ramps up.

Hexcel followed its major customer Vestas to the Great Western Industrial Park in Windsor, Colo.

Rich Montgomery, vice president of industrial development for the Great Western Development Company, says discussions with Hexcel began in 2007 when the company began its Colorado site search.

"After value engineering the project, we entered into a design-build process simultaneously with lease negotiations in order to fast track the construction and help Hexcel achieve their deadlines with Vestas," Montgomery says. "Typical time frame for construction of a project this scale would be 12 to 18 months. Our development team has been able to work with Hexcel's project managers to dramatically reduce the construction period. We broke ground in December of 2008 and should be substantially complete this July.

"The Hexcel project has been unique from the start," he says. "It's a highly specialized building with 40-plus-foot clear heights, slabs as thick as five feet [1.5 m.] in spots and clear span bans wider than 100 feet [30 m.] – not your typical industrial building. However, we were able to financially structure a deal with Hexcel that works for both of us and our lender."

Solar projects are also on the move. **Abound Solar**, a spinout of technology developed at Colorado State University, opened its first production facility in Longmont in April and plans to hire 300. Formerly known as AVA solar, Abound will manufacture low-cost, thin-film photovoltaic solar panels. Its manufacturing process relies on proprietary continuous in-line semiconductor equipment to convert sheets of glass into solar panels in less than two hours.

More Rockies Renewables

Renewable energy projects of various types are also developing across other sections of the Rocky Mountain States. The Pew Charitable Trusts released a study measuring the growth of green energy jobs from 1998-2007.

The Rocky Mountain region fared well in the study, with Idaho, Wyoming and Colorado showing green energy job-growth rates that outpaced all other job categories.

Utah's largest renewable energy facility, the Milford Wind Corridor, a 300-MW wind farm in Beaver County, continues to progress. Milford will eventually be home to 97 wind turbines – 39 GE 1.5-MW and 58 Clipper Liberty 2.5-MW turbines. Work on an 88-mile (142-km.) transmission line to connect Milford to the Intermountain Power Plant in Delta is also moving forward.

Utah's largest renewable-energy project, the Milford Wind Corridor, will be home to 97 wind turbines.

Southern Idaho, with its average wind speed of 13 mph (21 kmph), is another burgeoning center of wind-power development. Five wind farms are proposed in Twin Falls County to take advantage of the natural wind flow. The region also benefits from transmission lines with tie-in locations in northern Nevada.

Over the next several years, RES America Developments (RES) will partner with Sierra Pacific Resources to develop and operate the massive China Mountain Wind Energy Project, a 9,000-acre (3,645-hectare) wind-production facility located on the Idaho/Nevada state line. The proposed facility will generate up to 425 megawatts from about 200 wind turbines on federal, state and private lands along the state line. Construction is slated to begin in 2010.

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