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ALTERNATIVE ENERGY IN SOUTHERN IDAHO

Ethanol production. Wind energy. Hydroelectric, geothermal and methane power. These new and popular alternative energy segments are finding that southern Idaho offers many unique opportunities to help fuel their growing operations.

Ethanol * In May, Pacific Ethanol began producing ethanol in the rural southern Idaho community of Burley which is now the largest ethanol production facility in the western United States.

From bushels of corn to gallons of ethanol, Pacific Ethanol will, in a two-day process, produce up to 60 million gallons of ethanol annually.

This 177-acre facility can satisfy the ethanol need for the entire state when at full capacity. But ethanol is not the only byproduct to be generated at this plant.

Thanks to the areas large livestock industry, Pacific Ethanol will be able to operate at an even greater efficiency. Wet distiller grain (WDG's) is a protein-rich feed supplement byproduct left from ethanol production. But since WDG's are largely moisture, their shelf-life is short and their weight makes them costly to transport.

In the Burley area, dairy farmers will benefit from the quick transport of Pacific Ethanol's WDG's to supply more than 300,000 dairy cattle and 100,000 feedlot cattle, and the company will save substantially by selling and transporting locally while minimizing the need for storage.

The ability to sell WDG's is one of the primary reasons Pacific Ethanol chose Burley. "And to be providing what really amounts to a 10 percent boost in fuel supply and refining capacity in a state that has to import all of its transportation fuels right now," said Tim Raphael, government affairs director at Pacific Ethanol. "This is really a great deal for consumers, it's a great deal for the local economy and it's a great deal for the environment."

Wind Energy * Wind power is one of southern Idaho's leading sources of alternative fuel. The Fossil Gulch wind park, located outside of the southern Idaho community of Hagerman, about 35 miles northwest of Twin Falls, is a 10.5 megawatts power facility.

Boasting of an optimal average wind speed of 13 miles per hour, this southern Idaho region happens to sit in an area of natural wind flow. In addition, wind investors

find open land and farmland and close proximity to existing electrical infrastructure in place from the hydroelectric power facilities.

“I see good growth for wind power in southern Idaho, said Jeff Duff, vice president at Airstreams LLC, a company that manages wind parks throughout the country, including the one at Fossil Gulch. “It’s a fascinating time for wind. Last year, the industry grew by 45 percent. The year before, it grew by 40 percent. According to projections, it’s not going to stop. With wind power, we need places to put the turbines and Idaho is attractive because there’s open access.”

This location is ideal for a wind farm due to consistency of wind patterns, accessibility, limited impacts on residences and the environment, as well as proximity to existing transmission facilities. High voltage transmission lines are close to the proposed development site with tie-in locations in Northern Nevada offering the optimum opportunity.

Hydroelectric * The Snake River, locally known as “the lifeblood of southern Idaho,” is credited with turning dry sagebrush desert into fertile soil for a massive and vital agriculture industry in southern Idaho. Its water is diverted and sent to irrigate tracts of fertile desert land in highly organized systems of storage reservoirs, distribution canals, and pumping stations

Farmers needed electricity to power irrigation and drainage pumps so hydroelectric plants appeared in rapid succession. The strong flows of the Snake have been harnessed by 25 dams to produce hydroelectric power for the region.

Smaller hydroelectric power plants are being located on irrigation canals in the area such as Low Line Midway Hydroelectric Project in Twin Falls County, generating 2.5-megawatt hydroelectric energy. Idaho Power has been purchasing the energy generated from these projects.

Geothermal * Harnessing steam power from the earth, geothermal is another major player in the area’s alternative fuel market.

Geothermal energy is an important no-emissions alternative power source because it’s a renewable source of energy available 24/7, all year long.

The Raft River geothermal project is located in southern Idaho at the site of a former U.S. Department of Energy geothermal installation. The first development, called Unit One, became operational in October, 2007 and currently provides 9.5-to-10 net megawatts of power with a capacity of 13 MW. U.S. Geothermal just signed a second contract for Unit Two with Eugene Water and Electric Board of Eugene, Oregon. The site is attractive because of the proven 300 degree Fahrenheit hot water resource that has been developed and tested, and because of the significant infrastructure facilities that are currently in place. It has the potential to provide up to 100 MW of power.

Methane* Even the region’s 400,000+ dairy and feedlot cattle factor into the area’s alternative fuel sector. The area has seen growth in businesses and dairies co-opting to develop or purchase methane digesters.

Anaerobic digesters take cow waste and convert it into natural methane gas which is pumped into an engine where it’s then converted into electricity.

Idaho Falls-based Intrepid Technology and Resources, Inc. are expanding its methane digester at southern Idaho’s Whitesides Dairy. The company is the first to produce pipeline-quality methane gas from cow manure. Dairies with 2,000 or more cows could produce enough gas to make such a project viable.

The country's demand to seek out, grow and improve alternative fuel sources will certainly rise. Southern Idaho, with its richness in alternative fuel resources, is well poised to take part in this growth.

Sources:

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