

# Energy Accomplishments under Governor Schweitzer

More new electrical generation capacity has been added in Montana over the first five years of the Schweitzer Administration than in the previous 20 years combined. New generation capacity added or in the final stages of construction includes projects in Toole and Glacier counties (Glacier Wind Farm: 210 MW), Anaconda (Mill Creek Generation Station: 150 MW), Wheatland County (Judith Gap: 135 MW), Hardin (Hardin Generating Station: 116 MW), Culbertson (Culbertson Station: 91 MW & Ormat Heat Recovery: 5.5 MW), Great Falls (Horseshoe Bend: 9 MW, Rainbow Dam Upgrades: 25 MW increase & Highwood Station: 120 MW), Butte (Basin Creek: 51.8 MW), Fallon County (Diamond Willow: 30 MW), and Teton County (Turnbull Hydro: 13 MW). These projects represent an additional 956.3 MW of nameplate generation capacity in the state.

## **Constructed Wind Farms:**

### **Glacier Wind Farm, 210 MW**

NaturEner USA began construction in 2008 on 210 MW of wind power generation plant near Shelby which was built in two phases. Governor Schweitzer spoke at the official ground breaking of the first phase on July 17, 2008, which was operational by the end of October. Located in the hills between Cut Bank and Shelby, the first phase has a nameplate capacity of 106.5 MW. Another 103.5 MW was added in phase two and went online in October 2009. NaturEner reports that the payments from the Glacier Wind Farm of Montana property and corporate taxes along with landowner's royalties are \$6.8 million per year. The Montana Department of Revenue reports that in 2010 the Glacier Wind Farm located in Toole and Glacier Counties paid \$3,708,734 in property taxes. By 2018 the locally granted New and Expanded Industry tax credit that was granted to this project will expire and annual Montana property tax payments will increase to approximately \$6,200,000 per year.

### **Judith Gap Wind Farm, 135 MW**

The Judith Gap wind farm owned by Invenergy and located six miles south of Judith Gap in Wheatland County was dedicated on October 7, 2005. The 135 MW wind farm is equipped with 90 GE turbines rated at 1.5 MW capacities each. The Judith Gap Wind Farm has proven to be one GE's best performing sites in terms of wind capacity factor. Judith Gap has a proposed expansion of 35 turbines for another 52.5 MW, adding nearly 40 percent in power-production capacity. Invenergy reports that the Judith Gap Wind Farm has resulted in over \$28 million of Montana tax and landowner royalty payments since the plant began operation in 2005. The Montana Department of Revenue reports that in 2010 the Judith Gap wind farm paid \$1,441,874 in property taxes. By 2015, the locally awarded New and Expanded Industry tax credit that was granted to this project will expire and annual Montana property tax payments will increase to approximately \$2,300,000 per year.

### **Diamond Willow Wind Farm, 30 MW**

Montana Dakota Utility's Diamond Willow wind farm near Baker was completed in three phases. Phase one was completed in 2007, phase two resulted in 13 turbines with a total

capacity of 19.5 MW. An expansion to the farm, completed in 2010, added an additional 10.5 MW for a total of 30 MW of nameplate capacity. The Montana Department of Revenue reports that in 2010 the Diamond Willow Wind Farm located in Fallon County paid \$81,369 in property taxes. By 2017 the locally granted New and Expanded Industry tax credit that was granted to this project will expire and annual Montana property tax payments will increase to approximately \$110,000 per year.

### **Horseshoe Bend Wind Park, 9 MW**

This wind farm, located near Great Falls, is owned by Exergy Development Corporation and has a nameplate capacity of 9 megawatts of electricity from six 1.5 MW turbines, enough to power about 2,400 homes a year. The Montana Department of Revenue reports that in 2010 the Horseshoe Bend Wind Farm located in Cascade County paid \$211,888 in property taxes. By 2018 the locally awarded New and Expanded Industry tax credit that was granted to this project will expire and annual Montana property tax payments will increase to approximately \$350,000 per year.

### **Late Stage Wind Farm Developments:**

#### **Rim Rock Wind Farm, 309 MW**

NaturEner plans to build an additional 309 MW of generation capacity near their Glacier Wind Farm known as the Rim Rock Wind Farm. This project will connect to the Montana Alberta Tie Limited (MATL) transmission line. Rim Rock will be one of the largest wind farms in the West and will provide an estimated \$800 million in new investment. Construction on this project is scheduled to begin in the second quarter of 2011 and the farm is estimated to be fully operational by the fourth quarter of 2012. NaturEner estimates that the payments from the Rim Rock Wind Farm of Montana property and corporate taxes along with landowner's royalties will be \$10.4 million per year.

#### **Beaver Creek Wind Farm, 100 MW**

This proposed wind farm is located north of Reed Point in Stillwater County. Developer Jon Chafin is proposing to construct 100 MW in the first phase of the project. As of December 2010, the project developer is working to execute a power purchase agreement that will enable the project to begin development in Q1 of 2011. Future phases of the project are designed to develop a total of 500 MW at the site.

#### **Big Otter Wind Energy Project, 24 MW**

Invenergy plans on constructing a 24 MW wind farm southeast of Great Falls within 18 months of the issuance of a special use permit granted in December of 2010. The project is to be built on 3,500 acres of private land with the electricity being transmitted on an existing 100-kilovolt transmission line. Invenergy has also indicated they have secured 40,000 acres for future phases of the project. The \$50 million project is estimated to provide an \$18 million economic benefit to the area over 20 years in the form of property tax revenue, construction contracts and landowner payments.

**Springdale Wind Farm, 80 MW**

This 80 MW project is being development on state and private land located north of Interstate 90 between Big Timber and Livingston by Enerfin Energy Company. The project is permitted, has transmission capacity, and ready for construction pending a power purchase agreement.

**Madison Valley Renewable Energy, 150 MW**

This project has been given permission from the Madison County Commissioners to erect eight additional test towers on Norris Hill near Ennis. The company has leased enough ground to eventually produce 150 MW.

**Sagebrush Energy, 20 MW**

Sagebrush Energy is proposing to develop the Norris Hill Wind Project, a small, community sized wind energy project located near Norris Junction in Madison County. The project will provide clean affordable electricity to approximately 7,000 homes in Montana, generated from eight (8) wind turbines with a total capacity of 20 MW.

**Martinsdale Wind Farm, 60 MW**

A subsidiary of Horizon Wind Energy, working in cooperation with the Montana Department of Natural Resources and Conservation (DNRC) is developing a wind energy facility of up to 300 megawatts known as the Martinsdale Wind Power Project in central Montana approximately 20 miles west of Harlowton. The multi-phase project will initially consist of approximately 36 wind turbine generators producing approximately 60 MW, possibly expanding to 100 wind turbine generators producing up to 300 MW.

**Natural Gas & Coal Fired Generation:**

**Mill Creek Generating Station, 150 MW**

After strong early support from Governor Schweitzer and GOED, NorthWestern Energy's Mill Creek Generating station, a \$200 natural gas fired facility capable of producing 150 MW, was completed in 2010. The plant, located west of Anaconda will provide NorthWestern with the ability to respond to changing electric demand and is scheduled to begin serving customers by January 1, 2011. The plant created 10 full-time jobs on completion.

**Highwood Generating Station, 120 MW**

After a switch from coal to natural gas, Southern Montana Electric Generation and Transmission Cooperative (SMEGT) broke ground on their 45 MW facility outside of Great Falls in October 2010. Phase 1 will be the construction of a 40 MW simple cycle unit along with a 4.6 mile 230 kV transmission to interconnect with NorthWestern Energy's existing transmission line. The commercial operation date for phase 1 is scheduled to for June 2011. The second phase will be the construction of the second combustion turbine and the combined cycle portion of the Highwood Station, with a commercial operation date tentatively scheduled to be in the fourth quarter of 2013.

### **Centennial Power Plant, 119 MW**

This 119 MW pulverized coal power plant went on line in April of 2006. The Hardin Generating Station has the distinction of being the cleanest burning coal plant in Montana and was the first pulverized coal plant to be built in Montana in over 20 years.

### **Culbertson Peaking Plant, 91 MW**

Basin Electric Power Cooperative in November 2007 announced the development of a \$100 million natural gas fired peaking plant in Culbertson capable of producing about 91 MW of electricity. The station started generating power to the grid in June of 2010 and interconnects with a 115-kilovolt line operated by the Western Area Power Administration. The plant came on line in fall 2010.

### **Basin Creek Power, 51 MW**

The Basin Creek Power natural gas fired power plant in Butte was constructed in 2005 and produces 51+ MW of peaking power, tied to firming wind power from Judith Gap Wind Farm.

### **Waste Recovery Generation:**

#### **Ormat /Basin Electric Waste Heat Recovery Project, 5.5 MW**

Ormat Technologies constructed a waste heat recovery generation project 10 miles NE of Culbertson, MT. This project recovers heat generated by compressors on the Northern Border Pipeline. Ormat will own and operate the project and Basin Electric has contracted to purchase the output for 25 years. The project is capable of generating 5.5 MW and was completed in 2009.

#### **Flathead Electric Cooperative – Landfill Gas Generation, 1.6 MW**

In June 2009, Flathead Electric Cooperative completed construction of a 1.6 MW electric generator that runs using landfill gas. The biomass process will capture and filter landfill gas from the Flathead County Solid Waste District landfill to remove liquid and particulates, then burn it in a 20-cylinder engine. This gas was previously flared, as required by law. The energy facility cost approximately \$3.5 million to construct and Flathead Electric expects to recoup this investment within 15 years.

### **Hydropower Generation Projects:**

#### **Rainbow Dam Hydropower Project, 62 MW**

PPL Montana is undertaking this \$230 million project to raise the existing Missouri dam located near Great Falls 1.5 feet and replace eight turbines that currently generate 37 MW with one updated turbine capable of producing 62 MW—a gain of 25 MW. The project is scheduled for completion in 2012.

#### **Gibson Dam Hydropower Project, 15 MW**

The Gibson Dam on the Sun River on the Rocky Mountain Front near Augusta was originally built in the 1920's and it was designed for electricity generating turbines but they were not installed. Toll House of Bellingham Washington is conducting this \$25 million project to install the long awaited turbines capable of producing 15 MW of electricity. The developers have

been going through the permitting process since 2004 and expect to receive final approval by May of 2011.

### **Turnbull Hydro Generation Project, 13 MW**

Turnbull Hydro, LLC broke ground on their \$10 million hydro electric power plant in July of 2010. The plant will generate 13 MW of electricity from irrigation canals in the Greenfield Irrigation District without affecting farmers' ability to access the water. The project is slated for completion by the summer of 2011.

### **Grasslands Renewable Energy**

This Bozeman based company is associated with Spain based and is actively developing a 300 MW pumped hydro storage project to be located near Martinsdale

### **Transmission Lines:**

#### **Montana Alberta Tie Limited (MATL)**

MATL is a 600 MW, 215 mile merchant (private) transmission line connecting Great Falls and Lethbridge, Alberta. The Governor's Office tracked the state and federal permitting process closely which was completed in the fall of 2008. Groundbreaking on the \$100 million 230-kilovolt line was held in October 2010 and the line is scheduled to be fully operational by mid 2011. MATL will result in the creation of 50 construction jobs, 10 permanent jobs, over a \$1 billion in investment in transmission line / wind farms and will bring in \$700,000 annually in property taxes. More importantly MATL provides transmission capacity for 600 MW of wind farm development that will bring in over \$1 billion in investment to the state along with hundreds of construction job, dozens of permanent jobs, and millions in property taxes and lease payments.

#### **Mountain States Transmission Intertie (MSTI)**

Mountain States Transmission Intertie (MSTI) is a proposed project from NorthWestern Energy to provide 1,500 MW of new transmission capacity between the Townsend area and the Midpoint substation in Jerome County, Idaho. The company submitted permit applications to the state in July, 2008 for the proposed \$1 billion project. MSTI is a 500 kV transmission line that would relieve constraints on higher-voltage systems and provide west coast market access to new Montana power generation projects. The project would be built between substations located near Townsend and Jerome Idaho with an in- service date of 2013. The construction of MSTI is estimated to result in 742 jobs and generate \$12 - \$37 million per year in property tax revenue, dependent on how facilities are classified by the Montana Department of Revenue.

#### **Green Line**

Tonbridge Power's Green Line Project is a 230-500 kV transmission line under development to connect Great Falls to Bonneville Power Administration's (BPA) transmission system. The line would link the MATL transmission line to BPA's 500 kV transmission line either at Garrison or Townsend and would provide increased access to west coast markets. The final route for the approximately 100 mile project has not yet been determined but there have been requests for

at least 850 MW of capacity on the line and MOUs have been signed with the Western Area Power Administration (WAPA) to further review and evaluate this project.

### **Chinook**

TransCanada's Chinook Project, is a proposed 800 mile high-voltage direct current (HVDC) transmission line proposed to connect Montana through Townsend to Las Vegas, Nevada, with target markets in Las Vegas, Southern California and Phoenix. The project will use 500kV bi-pole lines to minimize land impact and provide for a total capacity of 3000 MW. As of late 2010 TransCanada has been holding an open season for prospective power generators to reserve capacity on the line.

### **Havre to Rainbow Transmission Upgrade**

This Western Area Power Administration (WAPA) project will upgrade the existing 103 mile line from 161 kV to 230 kV and in addition to the construction of an additional 20 miles of new transmission line. This project was permitted in 2008 and remains under construction.

### **Wolf Point to Williston Transmission Upgrade**

Wolf Point to Williston was permitted in 2006 and is currently under construction.

### **BPA / Colstrip 500 kV Transmission Line Upgrades**

NorthWestern Energy is commissioning technical studies on a project to increase the capacity of the existing high voltage transmission line from Colstrip to the west coast by up to 750 MW. NorthWestern is working with the Energy Promotion and Development Division, Pacific Corp, Puget Sound Power, Portland Electric and BPA. Studies to move this first phase forward are expected to be done in early 2011.

### **Grasslands Renewable Energy**

This Bozeman based company is associated with Spain based Elecnor and has plans to develop a transmission system that would provide capacity to ship 1,000 MW of firm power generated by an aggregation of 3,000 MW of wind farms dispersed across Montana and surrounding states and provinces. As part of this wind / transmission development plan and as a means of providing "green" firming power, Grasslands is actively developing a 300 MW pumped hydro storage project to be located near Martinsdale. If developed, Grasslands' projects would result in over 1500 direct jobs and a total economic impact of over \$287 million for Montana.

### **Montana Renewable Collector System**

NorthWestern is evaluating a project to construct \$200 million worth of transmission lines to collect renewable energy and efficiently deliver it to market. The project would consist of a series of up to five new 230kV lines that would connect high quality wind areas to a substation south of Townsend. From there the lines would connect to both the existing 500kV Colstrip Transmission System and the proposed MSTI 500kV line. NorthWestern has established a Memorandum of Understanding (MOU) with Western Area Power Administration (WAPA) to coordinate the planning of this project to determine how it may enhance WAPA's mission of enabling renewable energy development.

## **Pipelines:**

### **Enbridge Oil Pipeline Expansion**

Governor Schweitzer called a meeting in April 2006, with Wyoming Governor Dave Freudenthal and North Dakota Governor John Hoeven to discuss the regional need for additional infrastructure to get oil to domestic refineries. Inadequate pipeline capacity was resulting in oil price differentials that hurt Montana producers. More than one hundred producers and industry representatives attended that meeting. Enbridge has taken steps to alleviate this bottleneck with two expansion projects. Enbridge's Phase 5 expansion project is a 30,000 bpd expansion project that was completed in 2007 and increased export capacity for Montana oil fields. The Phase 6 expansion, with an estimated cost of approximately \$150 million, has added 40,000 bpd of capacity from the western end of the system to Minot, North Dakota and 51,000 bpd of capacity from Minot to Clearbrook, Minnesota. The line was completed and placed into service on January 1, 2010 and has markedly increased the capacity to ship oil from Northeast Montana to market. These improvements increased total system capacity from 110,000 bpd to 161,000 bpd.

### **Bison Natural Gas Pipeline**

The Bison Pipeline Project is a proposed major transportation link between the natural gas reserves of the Rocky Mountain area, from the Powder River Basin to natural gas markets in the Midwest and the Chicago area. Bison Pipeline LLC is a wholly owned subsidiary of Northern Border Pipeline Company. TransCanada Northern Border Inc. serves as operator of Bison Pipeline LLC. Construction on the approximately 300 mile pipeline began in July 2010 with gas flowing through the pipe by early 2011. The 30- inch pipeline is capable of carrying up to 477 million cubic of feet of gas a day with the capacity to be expanded to 1 billion cubic feet per day.

### **Keystone XL Pipeline**

TransCanada's Keystone XL Pipeline (KXL), announced in the summer of 2008, will transport crude oil 1,980 miles, from Alberta through Montana and on to Nebraska. KXL is a 36" crude oil pipeline and will provide additional capacity of 510,000 barrels per day to the existing Keystone Pipeline, eventually ending in the US Gulf Coast. The pipeline will run 281 miles through Eastern Montana and total investment in Montana will be approximately \$1 billion. TransCanada has announced a positive conclusion to its Montana On-Ramp "open season" by entering into firm term contracts with independent oil producers. According to TransCanada, 65,000 barrels of crude oil per day will be shipped through a new Baker, Montana on-ramp to be constructed as part of the Keystone XL pipeline project. The approximate cost of the on-ramp project will be \$100 million dollars, which is in addition to the \$1 billion estimate cost to construct the Montana portion of the Keystone XL pipeline. The on-ramp will add about \$2 million annually of property tax revenue in Fallon County.

### **Poplar System Expansion**

Bridger Pipeline LLC owns and operates the Poplar System, a 10" and 12" pipeline in eastern Montana that carries crude oil from the eastern Williston Basin south to Baker. Current capacity is approximately 42,000 bpd with plans in place to expand this capacity to 60,000-80,000 bpd.

## **Manufacturing Facilities:**

### **Fuhrländer Wind Turbine Manufacturing Plant**

Fuhrländer AG of Germany announced they will build a manufacturing plant in Butte to produce 2.5 MW wind turbines. The initial phase would employ 150 people, and the plant could create an additional 600 jobs if they decide to expand and build 150 foot blades at the site. Fuhrländer executives traveled to Montana in May of 2010 where they reiterated their commitment to constructing a Butte turbine assembly plant conditioned on the company obtaining sufficient orders for turbines.

### **Exergy Wind Turbine Manufacturing**

Incorporated in 2010, Exergy Integrated Systems (EIS) is a subsidiary of Exergy Development Group, one of the largest independent renewable energy development companies in North America. They are looking to enter the turbine manufacturing market in the 100 kW to 1 MW range, providing turbines for distributed generation with a community orientation including local ownership. The design is currently undergoing intensive computer analysis. It is a vertical-axis turbine with integrated storage capabilities. Advantages include the gear box located at ground level, greater social acceptance due to its aesthetic similarities to grain silos and being avian / bat friendly. Their plans include development of a Montana manufacturing facility. A site location has not been determined other than a preference for locating in the Great Falls/Cascade County area.

## **Bio-Energy Production:**

### **Earl Fisher Biodiesel**

This biodiesel plant located in Chester began operations in 2006 and has facilities for both seed crushing and biodiesel manufacturing. Their current facilities are capable of crushing 40,000 gallons of oil and producing 250,000 gallons of biodiesel per year. Expansion plans are to expand capacity to produce up to 1 million gallons of biodiesel per year. Current production uses camellia and canola seed for feed stock and the product is marketed locally. In July of 2010, Earl Fisher began supplying biodiesel to Burlington Northern Santa Fe Railway Co. (BNSF) at the Havre Depot. The fuel is being tested at the MSU-Northern Bio-Energy Center with one switch train running on a B20 blend (20% biodiesel) and another engine running on regular diesel. Earl Fisher expects to supply BNSF with 24,000 gallons of biodiesel over the one-year study.

### **Sustainable Oils**

Governor Schweitzer along with Senators Baucus and Tester, joined with Targeted Growth, Inc. (TGI), a renewable energy bioscience company, and Green Earth Fuels, a vertically integrated renewable biodiesel energy company, to announce the formation of a joint venture called Sustainable Oils, Inc. The new venture is capable of producing up to 100 million gallons of camelina-based biodiesel, launching the single largest U.S. contract for the unique biodiesel-specific feedstock. Nearly all of the initial camelina produced for this project is expected to be grown in Montana. In 2009 and 2010, Sustainable Oils supplied the US Air Force with 100,000 gallons of camelina-based jet fuel. In March 2010, Sustainable Oils moved

into an expanded facility to meet their growing demand and increase their research capabilities.

### **MSU-Northern Bio-Energy Center**

This biofuels lab was opened in 2008 and is a state of the art facility located on the MSU-Northern campus in Havre. It tests organic fuel and lubricants to certify that they meet American Society for Testing and Materials (ASTM) standards. The lab can also test fuel additives to measure their impact on fuel quality and engine performance. Northern will test samples from farmers and post test results on a Web site. The lab has continued to expand and now includes a biodiesel pilot plant, allowing the center to create biodiesel on an industrial scale for large scale testing. In July 2010, the Bio-Energy Center began working with BNSF and local biodiesel producer Earl Fisher Biofuels to test biodiesel in BNSF locomotive engines. The center will measuring emissions and look at engine performance in the adverse weather conditions of northern Montana comparing a B20 blend of biodiesel relative to standard diesel over a year.

### **Algae Aqua-Culture Technology (AACT)**

Algae Aquaculture Technologies of Whitefish recently received a \$350,000 grant from the Montana Department of Environmental Quality to build a commercial algae processing plant that will convert waste wood chips to energy and organic fertilizer. The process uses a greenhouse based algae growth system and an anaerobic biodigester to transform a blend of wood waste and algae into high-value methane for power generation, as well as significant amounts of organic fertilizer. The greenhouse will be built on the grounds of F.H. Stoltze Land and Lumber Co. in a joint venture of the two companies.

### **Peaks & Prairies**

This plant located in Malta began operations in 2005 and currently produces biolubricants made from canola and camelina seed.

### **Montana Advanced Biofuels**

Permits have been filed with DEQ for a 126 million gallon per year wheat and barley ethanol plant to be located in Great Falls. The company is currently reviewing technology providers, and engineering, procurement and construction (EPC) contractors. In addition, the developers have begun to secure financing including city/county funds, DOE loan guarantee, other federal programs, and private financing. The project passed Phase I for the DOE Guaranteed Loan program and submitted their Phase II application in December 2010.

### **Montana Microbial Products**

Montana Microbial Products (MMP) is commercializing a process using barley to produce fuel ethanol and a high-value protein concentrate. The barley protein concentrate (BPC) is a fundamental breakthrough in one of the most difficult issues facing the aquaculture industry – developing a cost effective plant protein to replace fish meal, the primary protein ingredient for farmed fish. MMP worked with Dr. Rick Barrows of the USDA/Agriculture Research Service “Trout Grains Project” to establish BPC value as a protein ingredient in feeds for farmed trout and salmon. MMP had crucial grant support for the project from the Montana Department of

Commerce, Board of Research and Commercialization and from the Montana Department of Agriculture Growth Through Agriculture Program.

### **University of Montana Western- Dillon**

In February of 2007, UM Western completed construction on their \$1.4 million biomass boiler that replaced a natural gas boiler on the campus in Dillon. The project consumes approximately 3,800 tons of wood per year and saved UMW \$147,000 while reducing CO2 emissions by 50% over a 7 month period in 2007-2008.

### **University of Montana Biomass Boiler**

The University of Montana has plans to construct a \$16 million wood-fired biomass boiler which would become the largest industrial-sized biomass gasification operation in the state and reduce the campus' natural gas consumption by 70%. The University of Montana has received an \$180,000 grant from the Department of Natural Resources and Conservation and the US Forest Service for the project. Most of the project is to be funded by qualified energy conservation bonds, a low-interest financing opportunity provided through the American Recovery and Reinvestment Act. The project is expected to burn 20,000 tons of slash, coarse and fine woody debris generated during logging, and beetle-killed trees per year. Estimates are that the project would pay for itself in cost savings in 15-17 years.

## **Oil Production and Refinery Upgrades:**

### **Montana Oil Production**

Oil production in the Bakken Formation of eastern Montana has been one of the nation's hottest oil plays in the last decade. Between 2004 and 2007 Montana's oil production increased by 42% with a peak production in 2006 of 36.2 million barrels. The world-wide economic downturn that began in late 2008 has caused production to decrease as energy demand had diminished. As a result Bakken production has declined to 27.7 million barrels in 2009. Horizontal drilling and well fracturing technology have made possible the extraction of this light sweet crude held tightly in the Bakken shale. And this play could last many years because according to a USGS report released in April, 2008, technically recoverable reserves in the Bakken formation of Montana and North Dakota are estimated to be in a range of 3.4 to 4.3 billion barrels. The development of the proposed Keystone XL pipeline along with a proposed 100,000 barrel per day "on-ramp" near Baker will provide improved market access to Montana oil producers

### **Montana Refining Company**

The 10,000 barrel per day Montana Refining Co. oil refinery in Great Falls, was purchased by Connacher Oil and Gas of Calgary in 2006 and since then has been upgraded with approximately \$100 million in improvements to the boiler fuel system to reduce sulfur emissions, improvements to the wastewater treatment system, efficiency upgrades to reduce production obstacles and plans to increase hydrogen plant capabilities used to strip sulfur out of the heavy crude. The plant currently employs nearly 100 people and has provided jet fuel to Presidential aircraft, including Air Force One.

### **CHS Refinery, Laurel**

A \$400 million upgrade at the CHS Refinery completed in May 2008 has increased the Laurel refinery's gasoline and diesel fuel production by 20 percent, even though the refinery continues to process the same amount of crude oil of around 60,000 barrels per day. The project has created 35 new full-time jobs with an additional annual payroll of \$3.5 million. The company completed a \$50 million benzene process upgrade that was completed in the fall of 2010.

### **EXXON/MOBIL**

According to company officials \$90 million has been spent on the refinery since 2005.

### **ConocoPhillips**

The Conoco Phillips refinery has undergone \$500 million in improvements since November of 2006 and the company indicates that another \$500 million will be spent in the future on improvements. These improvements have received appropriate state permits. A \$50 million dollar upgrade to coker drums at the refinery is currently underway with the recent issuance of permits to allow the oversized loads to travel through Idaho. In addition, the ConocoPhillips refinery was the first Energy Star certified refinery in the world.

### **Coal Production, Mines and Transportation:**

Montana coal production ranks fifth in the United States and hovered under 40 million tons annually for about 15 years beginning in 1988. During Governor Schweitzer's term production has topped 43 million tons annually. Expanded and new mine development will drive production increases in the coming years. Upon completion of the Signal Peak mine (see below) Montana could achieve an estimated 35% increase in production.

### **Otter Creek**

The State Land Board voted in March 2010 to approve the leasing of 570 million tons of state-owned coal located in the Otter Creek Valley of southeastern Montana. The lease provides Arch Coal with the right to develop coal located on state owned land which is interspersed among Arch's leases of privately owned land containing another 730 million tons of coal. Arch provided the state with an \$85.8 million "bonus bid" for the rights to develop the mine. Revenues for the state over the lifetime of the mine are estimated at close to \$5 billion.

### **Spring Creek**

The Spring Creek Mine, recently purchased by Cloud Peak from a Rio Tinto subsidiary, located near Decker in Big Horn County has increased production from 13.1 million tons to 17.6 million tons per year between 2005 and 2009. The company has been aggressively investing in mine expansion including construction of a state-of-the-art 8,000 ton per hour load out, expanded rail loop, replacement of its secondary coal crushers, and doubling the capacity of its conveyor to the new load-out.

### **Absaloka**

Westmoreland Resources Incorporated (WRI) operates the 15,000-acre Absaloka Mine in Big Horn County. WRI estimates that 77 million of these tons are recoverable and marketable. The Absaloka Mine has produced up to 7.5 million tons of coal annually.

### **Signal Peak (Bull Mountain)**

This new mining operation was announced in July 2008. Signal Peak, located near Roundup, is Montana's only underground mine and is one of the most significant contiguous coal reserves in the United States. The new mine is poised to be the most productive single long-wall mining operation in the nation, with an estimated 12-15 million tons of coal to be produced per year, 10 million of which is committed to First Energy, one of the partner companies in the project with Boich Companies. According to the companies, the estimated cost to fully develop the mine is \$450 million, including a new coal preparation plant, and the construction of a 35-mile rail spur to the Burlington Northern Santa Fe railway line near Broadview. Signal Peak has transitioned from development phase into production and currently employs approximately 230 full-time employees.

### **Nelson Creek**

Great Northern Properties, the nation's largest coal owner, owns 400 million tons of potential recoverable reserves of lignite at Nelson Creek. Over the years the company has considered a number of options for developing the site including mine mouth electrical generation plants or coal gasification plants that would produce pipeline quality natural gas. The company continues to explore these options.

### **Carpenter Creek**

This 250 million ton reserve contains high BTU coal (10,800 - 11,000) located between Musselshell and Melstone. The 70,000 acre area including licenses was purchased by Atlantic Coal in December of 2009. Estimated proven coal reserves are 91.3 million tons (Mt), indicated reserves stand at 145.2 Mt and inferred reserves are 144.3 Mt. Production is targeted for 2012 with modeling calling for a mine with a potential of 30 years of production at 6 million tons per year.

### **Bridger-Fromberg**

An established coal developer behind Signal Peak is currently working on developing another mine, this one located in Carbon County. The Bridger-Fromberg field spans more than 40,000 acres, and developers estimate it contains up to 700 million tons of recoverable coal reserves with an estimated production level of 5 million tons a year. This project is slated to be an underground mine and contains very high quality coal.

### **Rail Shipping of Coal**

Several major rail projects are under construction or in the permitting process. Construction of the Signal Peak spur was completed in 2009. This 35 mile line connects to the BNSF mainline near Broadview. The Tongue River Railroad which will serve as an access point to Otter Creek coal is now federally permitted. Construction of this line will begin with the development of the Otter Creek coal tracts. Another anticipated line is the Carpenter Creek Spur which will run from Carpenter Creek to the BNSF mainline near Huntley.