The secret life of glaciers - For 25 years, glaciologist Jemma Wadham has studied the Earth's mighty ice rivers, charting a story of terrifying decline — and surprising glimmers of life

June 5, 2021 | Financial Times [30 Day Embargo] (London, England)
Author: Jemma Wadham | Section: News | 1511 Words
Page: 2
OpenURL Link

I've studied glaciers for most of my adult life, starting in geography classes as a teenager, when I was enthralled by the notion that at the peaks and poles of our planet there were giant rivers of moving ice that engulfed entire valleys and swept up all in their path.

Over my 25-year career as a glaciologist, their majesty has dwindled as our climate has warmed. I've witnessed this diminishing with my own eyes. The Haut Glacier d'Arolla in Switzerland, the very first glacier I visited as a 20-year-old undergraduate, has shrunk by more than one kilometre in length, thinned and lost one of its limbs since the 1990s. When I revisited it in 2018, I was stunned to see it slumped like a corpse in its eerie shroud of a valley.

Further south in the Andes of Peru, tropical glaciers I've studied have lost a staggering 30 per cent of their area in the past two decades. What's more, their retreating ice has exposed garish swaths of metal-rich rocks, liberating toxic metals and acid to rivers and lakes. The lifelines proffered by glacier melt rivers in this arid region are becoming undrinkable.

Satellites orbiting our planet can now track the size of almost every glacier in the world — more than 200,000 of them. Writing in the journal Nature earlier this year, Romain Hugonnet and colleagues revealed that the thinning of glaciers (outside of ice sheets) had doubled in pace over the past two decades alone. Several international groups show that loss of ice from our ice sheets is also accelerating, and in some cases worryingly tracking worst-case climate warming scenarios forecast by the Intergovernmental Panel on Climate Change.

But there's more to this tale than the transfer of water from glacier to ocean. In fact, there is a magical and rather extraordinary dimension to glaciers that has been hidden from the public eye, but which is deeply wrapped up in their fate. This is that glaciers are alive. Imagine you are sitting beside one of the raging rivers that tumble from a glacier's front, and scoop some of its cloudy, frigid water into a bottle.

Its cloudiness is created by a swirling mass of fine particles, once part of the glacier's bed but sanded down by the basal layers of the glacier before being swept up by flowing meltwater. These tiny particles are called "glacial flour". Clinging to them you would find thousands of microbial cells — the only living inhabitants of a glacier (save for a passing polar bear or Arctic fox).

I first discovered the curious marvels of glacial flour when working in Greenland in 2012, at the formidable Leverett Glacier. Wind-swept, wild and remote, our camp there became known as "Camp Famine", due to the food shortages we often encountered at the end of field seasons. Leverett's river was a terrifying sight; a huge, writhing mass of grimy meltwater.

Back then, when I looked at the river, all I saw was dirty water. Yet as we started to take samples of this cloudy substance, we realised there was a lot more to it. First, we found that Greenland glacial flour (and its meltwater) was packed full of rock-sourced nutrients such as iron, phosphorus and silicon and came with its own population of microbes, which were living off the rock and liberating its nutrition.

These microbes helped dissolve the rock by chemical reactions, and in doing so obtained energy and carbon to grow — a microbial cottage industry.

Researchers working around the edges of Greenland show the potent effects of the ice sheet's meltwater and

glacial flour. Deep fjords fringe much of the ice sheet and act as holding bays for its meltwater. Where glacier tongues reach the heads of the fjords, melt rivers pop out of glacier fronts well beneath the fjord surface, like a cold-water Jacuzzi. These stir up the water column, bringing nitrogen to the surface — nourishment for the phytoplankton, the base of local food webs.

If these glaciers shrink and retreat to land, the phytoplankton's food source will reduce or be cut off. This could happen in many places in the world where you have ice flowing into a fjord or sea — Svalbard, the Canadian Arctic, Greenland, Alaska, Patagonia and so on. In Greenland alone, fisheries are the primary source of export income, and halibut like to skulk within the fjords.

In Antarctica, icebergs replace meltwater as the main type of freshwater couriered from the ice sheet to its oceans. Yet, we see something similar. Flotillas of icebergs drifting offshore are packed full of iron, released from Antarctica's rock base by chemical reactions involving the microbes. The growth of phytoplankton in the Southern Ocean is limited by the scarce availability of iron. If you give them more, they grow more, feeding larger organisms such as Antarctic krill. We think that rusty icebergs might sustain a lot of the Southern Ocean's phytoplankton growth, sucking up carbon dioxide from the atmosphere, and supporting valuable food-webs.

There is a sinister side, though, to glacier life. Often within glacial flour, you find carbon — the fundamental building block for life — because when our ice sheets formed, they entombed soils, vegetation and other dead things. One type of microbe that thrives at the bottom of an ice sheet is a methanogen (a "methane maker"); just like in rice paddies, landfill sites and the stomachs of cows, places where we are worried about production of this potent greenhouse gas.

In 2015, we turned up at Leverett Glacier armed with a special device to measure methane in the deep field — a sensor designed for the oceans and never used before in glaciers. What we found was incredible: the river waters were saturated with the gas, making the bottom of the ice sheet a giant methaneproducing wetland. Since then, other researchers have found methane coming out of small glaciers, and even in lakes beneath the Antarctic ice sheet.

We are not sure how much methane lies beneath ice sheets, what form it is in and whether it could come out if the ice retreats. It's certainly not something we have factored into future greenhouse gas emission targets to keep warming to within the 1.5C ambitions of the 2015 Paris Agreement.

It is too late to stop all future glacier retreat — our atmosphere is too loaded with greenhouse gases. Even if we meet the goals of the Paris Agreement, Ben Marzeion and colleagues estimated last year that we would lose about a tenth of the Earth's glaciers anyway by 2050, and more than half in sensitive spots like the tropics, because that change is locked in.

But our future path of greenhouse gas emissions could make all the difference, with the percentage loss of world glaciers by 2100 roughly doubling between low and high emission paths, with upwards of 80 per cent glacier losses for some regions under worst-case scenarios. This is a vast envelope of possibility for mountain regions which globally host more than 700m people, and who in the Himalayas, Andes and other developing regions have limited capacities to adapt to changed water supply.

For our ice sheets, aggressive action now could determine whether we cross what are called "tipping points", when slow change gives way to fast and irreversible glacier loss and rapid sea level rise.

As for the effects of melting the homes of our glacier microbes — we are still learning. These tiny organisms seem to amplify some of the physical changes happening in glaciers. For example, pigmented glacier algae clinging to the Greenland ice sheet's melting surface in summer darken the ice surface and have been shown by the Black and Bloom project to raise melting by more than 10 per cent.

Methane locked away in our ice sheets could be released as the ice thins and retreats, amplifying greenhouse gas concentrations and warming. Entire coastal ecosystems, including lucrative fisheries, may collapse if the glacial

conveyor belts of nutrition switch off.

I would never have imagined when I started out on the Haut Glacier d'Arolla 25 years ago that I would come to witness devastating reports weekly of glaciers thinning, retreating, even dying.

It's true to say that glaciers have grown and shrunk in many past phases of Earth's history as our climate naturally cooled and warmed, but what we are seeing now is unprecedented in human history — and it's happening with nearly 8bn people on the planet, many of whom have come to rely on glaciers for clean water, fisheries, stable seas and a habitable climate.

We are at a defining moment in the history of our planet and face a sobering task in the run-up to COP26 in Glasgow this November, as world leaders set the level of their carbon-cutting climate ambitions, and we as individuals rethink how to live our daily lives to help. Recent records of global glacier change signal that we are sleepwalking towards a humanitarian crisis. The question is — will we choose to wake up? Jemma Wadham's 'Ice Rivers' is published by Allen Lane Where glacier tongues reach the heads of the fjords, melt rivers pop out beneath the surface, like a Jacuzzi

Missoulian (Missoula, MT): Page 32

August 9, 2020 | Missoulian (Missoula, MT)
Missoula, Montana
Page: 32

St. Louis Post-Dispatch (MO): Page 246

August 9, 2020 | St. Louis Post-Dispatch (MO)
St. Louis, Missouri
Page: 246
OpenURL Link

- **Citation (aglc Style)**
  St. Louis Post-Dispatch (online), 9 Aug 2020 246 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=image/v2%3A1789BC2CDCA78688%40AWNB-17C8E966D980CA62%402459071-17CBEA3728954FD1%40245-17CBEA3728954FD1%40›

Bridger wind farm could be finished by end of year

August 5, 2020 | Billings Gazette, The (MT)
Author: Tom Lutey | Section: State And Regional | 464 Words
OpenURL Link

A large Montana wind farm near Bridger is on track for completion by year's end.

The towers for PacifiCorp's Pryor Mountain Wind project have arrived by train at the Montana Rail Link yard in Laurel and are making their way to Bridger, confirmed Spencer Hall, of PacifiCorp.

"We've got a lot of action out there. We've got four structures that are already being put up. Over the next couple weeks, there are going to be a lot more. I think there's going to be 10 in the next week or two," Hall said. "Folks in the area can expect see a lot of trucks going by."

PacifiCorp's first investment in Montana renewable energy is a 114-turbine project that at its peak will employ 300 workers. At 240 megawatts of installed capacity, Pryor Mountain Wind will be the largest wind farm spinning in Montana. Its customers will be out of state.

The $406 million project is the part of Oregon-headquartered PacifiCorp's move to add 7,000 megawatts of renewable energy to its portfolio by 2025. PacifiCorp is pivoting away from coal power to renewable energy and battery storage, which is cheaper.

Last month, the utility agreed to be financially ready to exit Montana's Colstrip Power Plant and the Jim Bridger plant in Wyoming by 2023.

The extra-long wind energy parts are a first for the Montana Rail Link yard in Laurel. MRL told The Gazette earlier that it moved wind farm components in the past, but not offloaded the equipment in its own railyard.

The length of parts requires they span a couple rail cars, which have to be specially designed.

"The specialized flatcars are designed to successfully negotiate curves in the track and to handle the extended length of wind farm components like wind turbine blades. A single wind turbine blade runs over the length of two rail cars," said Ross Lane, of the Montana Rail Link.

In the Laurel railyard, the parts are joined by other equipment shipped by truck. A contracted crane service gets the parts loaded onto trucks for shipping to Bridger.

Mortenson Construction of Minneapolis is the project general contractor. In a press release Monday, the contractor said Pryor Mountain Wind is its fifth Montana wind project and will increase the state's wind portfolio 30%. When spinning, Pryor Mountain Wind will generate enough power for 76,000 homes.

"Montana has great potential for wind energy and manufacturing, as it is known to be one of the U.S.'s windiest states," said Tim Maag, vice president of Mortenson's wind energy group.

By year's end, most of Montana's wind energy will be exported. Pryor Mountain Wind will flow into Wyoming and Utah on the transmission line servicing Yellowtail Dam. PacifiCorp owns the transmission. The state's next two largest wind farms, Glacier Wind and Rim Rock wind export power on the Montana Alberta Tie Line.

- **Citation (aglc Style)**

Tom Lutey, 'Bridger wind farm could be finished by end of year', *Billings Gazette, The* (online), 5 Aug 2020 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/17CB690E150B11D8›

Bridger wind farm could be finished by end of year

August 5, 2020 | Independent Record (Helena, MT)
Author: TOM LUTEY tlutey@billingsgazette.com | Section: State And Regional | 464 Words
OpenURL Link

A large Montana wind farm near Bridger is on track for completion by year's end.

The towers for PacifiCorp's Pryor Mountain Wind project have arrived by train at the Montana Rail Link yard in Laurel and are making their way to Bridger, confirmed Spencer Hall, of PacifiCorp.

"We've got a lot of action out there. We've got four structures that are already being put up. Over the next couple weeks, there are going to be a lot more. I think there's going to be 10 in the next week or two," Hall said. "Folks in the area can expect see a lot of trucks going by."

PacifiCorp's first investment in Montana renewable energy is a 114-turbine project that at its peak will employ 300 workers. At 240 megawatts of installed capacity, Pryor Mountain Wind will be the largest wind farm spinning in Montana. Its customers will be out of state.

The $406 million project is the part of Oregon-headquartered PacifiCorp's move to add 7,000 megawatts of renewable energy to its portfolio by 2025. PacifiCorp is pivoting away from coal power to renewable energy and battery storage, which is cheaper.

Last month, the utility agreed to be financially ready to exit Montana's Colstrip Power Plant and the Jim Bridger plant in Wyoming by 2023.

The extra-long wind energy parts are a first for the Montana Rail Link yard in Laurel. MRL told The Gazette earlier that it moved wind farm components in the past, but not offloaded the equipment in its own railyard.

The length of parts requires they span a couple rail cars, which have to be specially designed.

"The specialized flatcars are designed to successfully negotiate curves in the track and to handle the extended length of wind farm components like wind turbine blades. A single wind turbine blade runs over the length of two rail cars," said Ross Lane, of the Montana Rail Link.

In the Laurel railyard, the parts are joined by other equipment shipped by truck. A contracted crane service gets the parts loaded onto trucks for shipping to Bridger.

Mortenson Construction of Minneapolis is the project general contractor. In a press release Monday, the contractor said Pryor Mountain Wind is its fifth Montana wind project and will increase the state's wind portfolio 30%. When spinning, Pryor Mountain Wind will generate enough power for 76,000 homes.

"Montana has great potential for wind energy and manufacturing, as it is known to be one of the U.S.'s windiest states," said Tim Maag, vice president of Mortenson's wind energy group.

By year's end, most of Montana's wind energy will be exported. Pryor Mountain Wind will flow into Wyoming and Utah on the transmission line servicing Yellowtail Dam. PacifiCorp owns the transmission. The state's next two largest wind farms, Glacier Wind and Rim Rock wind export power on the Montana Alberta Tie Line.

- **Citation (aglc Style)**

TOM LUTEY tlutey@billingsgazette.com, 'Bridger wind farm could be finished by end of year', *Independent Record* (online), 5 Aug 2020 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/17CB6A9B48403E60›

Bridger wind farm could be finished by end of year

August 5, 2020 | Missoulian (Missoula, MT)
Author: TOM LUTEY tlutey@billingsgazette.com | Section: State And Regional | 464 Words
OpenURL Link

A large Montana wind farm near Bridger is on track for completion by year's end.

The towers for PacifiCorp's Pryor Mountain Wind project have arrived by train at the Montana Rail Link yard in Laurel and are making their way to Bridger, confirmed Spencer Hall, of PacifiCorp.

"We've got a lot of action out there. We've got four structures that are already being put up. Over the next couple weeks, there are going to be a lot more. I think there's going to be 10 in the next week or two," Hall said. "Folks in the area can expect see a lot of trucks going by."

PacifiCorp's first investment in Montana renewable energy is a 114-turbine project that at its peak will employ 300 workers. At 240 megawatts of installed capacity, Pryor Mountain Wind will be the largest wind farm spinning in Montana. Its customers will be out of state.

The $406 million project is the part of Oregon-headquartered PacifiCorp's move to add 7,000 megawatts of renewable energy to its portfolio by 2025. PacifiCorp is pivoting away from coal power to renewable energy and battery storage, which is cheaper.

Last month, the utility agreed to be financially ready to exit Montana's Colstrip Power Plant and the Jim Bridger plant in Wyoming by 2023.

The extra-long wind energy parts are a first for the Montana Rail Link yard in Laurel. MRL told The Gazette earlier that it moved wind farm components in the past, but not offloaded the equipment in its own railyard.

The length of parts requires they span a couple rail cars, which have to be specially designed.

"The specialized flatcars are designed to successfully negotiate curves in the track and to handle the extended length of wind farm components like wind turbine blades. A single wind turbine blade runs over the length of two rail cars," said Ross Lane, of the Montana Rail Link.

In the Laurel railyard, the parts are joined by other equipment shipped by truck. A contracted crane service gets the parts loaded onto trucks for shipping to Bridger.

Mortenson Construction of Minneapolis is the project general contractor. In a press release Monday, the contractor said Pryor Mountain Wind is its fifth Montana wind project and will increase the state's wind portfolio 30%. When spinning, Pryor Mountain Wind will generate enough power for 76,000 homes.

"Montana has great potential for wind energy and manufacturing, as it is known to be one of the U.S.'s windiest states," said Tim Maag, vice president of Mortenson's wind energy group.

By year's end, most of Montana's wind energy will be exported. Pryor Mountain Wind will flow into Wyoming and Utah on the transmission line servicing Yellowtail Dam. PacifiCorp owns the transmission. The state's next two largest wind farms, Glacier Wind and Rim Rock wind export power on the Montana Alberta Tie Line.

- **Citation (aglc Style)**

TOM LUTEY tlutey@billingsgazette.com, 'Bridger wind farm could be finished by end of year', *Missoulian* (online), 5 Aug 2020 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/17CB6E96B7265CC8›

Bridger wind farm could be finished by end of year

August 5, 2020 | Montana Standard, The (Butte, MT)
Author: TOM LUTEY tlutey@billingsgazette.com | Section: State And Regional | 464 Words
OpenURL Link

A large Montana wind farm near Bridger is on track for completion by year's end.

The towers for PacifiCorp's Pryor Mountain Wind project have arrived by train at the Montana Rail Link yard in Laurel and are making their way to Bridger, confirmed Spencer Hall, of PacifiCorp.

"We've got a lot of action out there. We've got four structures that are already being put up. Over the next couple weeks, there are going to be a lot more. I think there's going to be 10 in the next week or two," Hall said. "Folks in the area can expect see a lot of trucks going by."

PacifiCorp's first investment in Montana renewable energy is a 114-turbine project that at its peak will employ 300 workers. At 240 megawatts of installed capacity, Pryor Mountain Wind will be the largest wind farm spinning in Montana. Its customers will be out of state.

The $406 million project is the part of Oregon-headquartered PacifiCorp's move to add 7,000 megawatts of renewable energy to its portfolio by 2025. PacifiCorp is pivoting away from coal power to renewable energy and battery storage, which is cheaper.

Last month, the utility agreed to be financially ready to exit Montana's Colstrip Power Plant and the Jim Bridger plant in Wyoming by 2023.

The extra-long wind energy parts are a first for the Montana Rail Link yard in Laurel. MRL told The Gazette earlier that it moved wind farm components in the past, but not offloaded the equipment in its own railyard.

The length of parts requires they span a couple rail cars, which have to be specially designed.

"The specialized flatcars are designed to successfully negotiate curves in the track and to handle the extended length of wind farm components like wind turbine blades. A single wind turbine blade runs over the length of two rail cars," said Ross Lane, of the Montana Rail Link.

In the Laurel railyard, the parts are joined by other equipment shipped by truck. A contracted crane service gets the parts loaded onto trucks for shipping to Bridger.

Mortenson Construction of Minneapolis is the project general contractor. In a press release Monday, the contractor said Pryor Mountain Wind is its fifth Montana wind project and will increase the state's wind portfolio 30%. When spinning, Pryor Mountain Wind will generate enough power for 76,000 homes.

"Montana has great potential for wind energy and manufacturing, as it is known to be one of the U.S.'s windiest states," said Tim Maag, vice president of Mortenson's wind energy group.

By year's end, most of Montana's wind energy will be exported. Pryor Mountain Wind will flow into Wyoming and Utah on the transmission line servicing Yellowtail Dam. PacifiCorp owns the transmission. The state's next two largest wind farms, Glacier Wind and Rim Rock wind export power on the Montana Alberta Tie Line.

- **Citation (aglc Style)**

TOM LUTEY tlutey@billingsgazette.com, 'Bridger wind farm could be finished by end of year', *Montana Standard, The* (online), 5 Aug 2020 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/17CB6F5BA0F4C098›

Bridger wind farm could be finished by end of year

August 5, 2020 | Ravalli Republic (MT)
Author: TOM LUTEY tlutey@billingsgazette.com | Section: News | 464 Words
OpenURL Link

A large Montana wind farm near Bridger is on track for completion by year's end.

The towers for PacifiCorp's Pryor Mountain Wind project have arrived by train at the Montana Rail Link yard in Laurel and are making their way to Bridger, confirmed Spencer Hall, of PacifiCorp.

"We've got a lot of action out there. We've got four structures that are already being put up. Over the next couple weeks, there are going to be a lot more. I think there's going to be 10 in the next week or two," Hall said. "Folks in the area can expect see a lot of trucks going by."

PacifiCorp's first investment in Montana renewable energy is a 114-turbine project that at its peak will employ 300 workers. At 240 megawatts of installed capacity, Pryor Mountain Wind will be the largest wind farm spinning in Montana. Its customers will be out of state.

The $406 million project is the part of Oregon-headquartered PacifiCorp's move to add 7,000 megawatts of renewable energy to its portfolio by 2025. PacifiCorp is pivoting away from coal power to renewable energy and battery storage, which is cheaper.

Last month, the utility agreed to be financially ready to exit Montana's Colstrip Power Plant and the Jim Bridger plant in Wyoming by 2023.

The extra-long wind energy parts are a first for the Montana Rail Link yard in Laurel. MRL told The Gazette earlier that it moved wind farm components in the past, but not offloaded the equipment in its own railyard.

The length of parts requires they span a couple rail cars, which have to be specially designed.

"The specialized flatcars are designed to successfully negotiate curves in the track and to handle the extended length of wind farm components like wind turbine blades. A single wind turbine blade runs over the length of two rail cars," said Ross Lane, of the Montana Rail Link.

In the Laurel railyard, the parts are joined by other equipment shipped by truck. A contracted crane service gets the parts loaded onto trucks for shipping to Bridger.

Mortenson Construction of Minneapolis is the project general contractor. In a press release Monday, the contractor said Pryor Mountain Wind is its fifth Montana wind project and will increase the state's wind portfolio 30%. When spinning, Pryor Mountain Wind will generate enough power for 76,000 homes.

"Montana has great potential for wind energy and manufacturing, as it is known to be one of the U.S.'s windiest states," said Tim Maag, vice president of Mortenson's wind energy group.

By year's end, most of Montana's wind energy will be exported. Pryor Mountain Wind will flow into Wyoming and Utah on the transmission line servicing Yellowtail Dam. PacifiCorp owns the transmission. The state's next two largest wind farms, Glacier Wind and Rim Rock wind export power on the Montana Alberta Tie Line.

- **Citation (aglc Style)**

TOM LUTEY tlutey@billingsgazette.com, 'Bridger wind farm could be finished by end of year', *Ravalli Republic* (online), 5 Aug 2020 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/17CB707445E27070›

OPI meets with County: Lack of reports ‘problematic’

October 10, 2018 | Cut Bank Pioneer Press (MT)
Author: LeAnne Kavanagh Pioneer Press Editor | Section: News | 814 Words
OpenURL Link

Glacier County officials have a "to do" list of outstanding reports, informational requests, distribution of payments and more to compile and submit after their meeting with Kara Sperle, School Finance Division Administrator of the Montana Office of Public Instruction (OPI), on Oct. 5.

Sperle's meeting with Glacier County Commissioners Michael DesRosier and Tom McKay, Interim Treasurer Don Wilson and Clerk and Recorder Glenda Hall was moved to the Cut Bank Voting Center due to the number of local residents in attendance. According to Hall, the State Fire Marshall limits the number of people that can safely be in the commissioners chambers to 15.

Sperle introduced herself and then was quick to stress, "The OPI does not wish to make ourselves an adversary of Glacier County; I am here to help…As you know, I have sent your county several requests for financial information for the four school districts and the required county reporting." She was referring to the four Browning and Cut Bank elementary school and high school districts, adding, she was still waiting for information from the county.

According to Sperle, the four Glacier County districts are the only ones of the state's 402 school districts that have been "unable to submit the FY 2019 school budgets…To submit their budgets, the school districts need financial information that is verifiable and accurate from the County. We are at a critical point and need this information immediately."

More than once during the meeting Sperle remind county officials "all financial reporting, including school budgets and year-end financial reports" were due to OPI by Sept. 15. Sperle referred to the lack of accurate reports as "problematic" adding it was "super important" for the County to provide "numbers that are accurate."

Sperle recapped, both verbally and in writing, the information and reports she still needed from Glacier County. She stressed, "Most importantly, the year- or month-end balances of reports must match the next month's or next year's beginning balances. The practices of opening closed periods is extremely problematic to the districts."

She offered to meet with the Treasurer's Office on a regular basis, by phone or in person to keep the reports and communication flowing. Sperle also offered training or assistance provided by OPI "within our scope of expertise."

Wilson explained to Sperle the monthly process he has established for preparing reports, posting taxes and payments to ensure the school districts will received up-to-date reports. "I have a very good understanding of what has to happen each month," said Wilson.

He told Sperle, however, he is not responsible for "anything prior to July 1" when he was appointed Interim Treasurer. "I can give you reports, but I'm not sure I can give you solutions.

The issue of protested taxes and the negative balance for the Cut Bank Schools' protested tax fund generated much discussion, but no answers. Sperle explained several times tax protests by centrally assessed taxpayers, such as NaturEner Glacier Wind I and 2 and Omimex Resources, were distributed differently than real property protested taxes.

"We should be able to find a way to fix this," said Wilson.

Bob Denning of Denning, Downey and Associates, CPAs, who contracts as a consultant for Glacier County, was in attendance and suggested looking back at the centrally assessed taxpayers to see if there was a posting error with

their protested taxes.

Cut Bank Schools Business Manager and District Clerk Scott Laird pointed out the district's protested tax fund decreased by $1.6 million this past year to approximately -$460,000.00 and the school district needs accurate numbers to move forward. Laird also listed off the financial reports and information he was still missing from Wilson's office.

Wilson and Matt questioned work done by former interim treasurers Galen Galbreath and Jolene Volkman in posting the protested taxes. Superintendent of Schools Darryl Omsberg questioned how accurate the numbers on the county cash reports are. "I've received my reports and there were negative numbers."

On the issue of protested taxes, Wilson said there was "not one real property tax protest that was valid, not one." Later he reiterated, there was "not a single real property tax protest that was done correctly" and he believed the protested tax fund should be distributed immediately.

Glacier County Attorney Terryl Matt told Wilson a judge would need to make that determination, adding for now, "The school district wants to know where its money is."

Hall said the negative balance in the protested tax fund needs to be "researched." Wilson disagreed. "No, just fix it. And don't do it again," he stated.

Sperle offered to return to Glacier County this week to further assist Wilson and his staff in preparing the documents needed by the school districts. She is hopeful all the missing information will be available by the end of this week in order for the school districts to prepare their year-end Trustee Financial Summary and then compile their budgets and hold the necessary school trustee meeting to approve the final budget.

NaturEner and State resolve tax dispute

April 11, 2018 | Shelby Promoter (MT)
Author: Jennifer Van Heel Shelby Promoter | Section: News | 489 Words
OpenURL Link

The NaturEner tax protest has been settled at the State level, but what happens now in Toole County is still not known until the dust settles. As of March 27, Toole County treasurer Boyd Jackson was still waiting on the final numbers from the Montana Department of Revenue so he could complete the settlement.

"I am still working on the settlement, so I don't have all the final numbers," said Jackson. "But the total refund will be approximately $2,138,564.54 plus interest, of the $4,866,984.38 held in protest."

Out of the total refund due to NaturEner for two of their properties, Toole County will pay approximately $1,291,399.41 and the State $847,164.93.

As part of their agreement, NaturEner's 2014 protest was dismissed and that has already been distributed in the amount of $196,455.23 in protest dollars to Toole County.

"Also, NaturEner will not protest the 2018 taxes," added Jackson.

Due to the protest being found in NaturEner's favor, more than half the protested taxes held will be refunded back to them, affecting County budgets across the board. To what degree is yet undetermined.

The Department of Revenue entered into a settlement of agreement with NaturEner Glacier Wind Energy 2, LLC, (GW 2) resolving all centrally assessed property protests for tax years ended 2015-17. For tax year ended 2015 the settled reduction is 46.06 percent, 2016 the settled reduction is 42.93 percent and 2017, 24.42 percent. A total refund to be paid to NaturEner for those years are as follows: 2015, $1,090,860.82; 2016, $794,294.99; 2017, $253,408.73.

The State will be refunding GW 2 a refund of $96,725.58 for 2015, $84,317.80 for 2016 and $12,335.70 for 2017.

The State supplied an estimated principal amount for the County for each year protested. Interest is not included in these amounts, and the final refund amounts are not yet known. The original County principal for 2015 was $157,616.04; the original principal for 2016 was $161,276.87; 2017 the County principal amount was $54,302.57.

"We only have to refund the first half payment for 2017, since the 2nd half payment has not been made yet," said Jackson.

In regards to NaturEner Rim Rock, LLC, a settlement has also been reached. The settled reduction for tax year ending 2015 is 28.83 percent, 2016 is 20.11 percent and 2017, 13.40 percent. Refund amounts are approximately $203,526.41 for 2015, $295,176.09 for 2016, and $225,431.65 is owed for 2017.

A total State refund in the amount of $38,424.04 is due for 2015, $62,543.34 for 2016 and $50,317.34 for 2017. These amounts do not include interest accrued.

The estimated County principles are $165,102.37 for 2015, $232,632.75 for 2016 and $175,114.31 for 2017. These are estimated principles only, interest will be included when determining the total refund owed by Toole County.

Once the actual amounts of the refunds owed are figured, the affects on the different County budgets, including the schools, will be known. The Promoter will provide updated information in regards to this matter as it is received.

- **Citation (aglc Style)**
  Jennifer Van Heel Shelby Promoter, 'NaturEner and State resolve tax dispute', *Shelby Promoter* (online), 11 Apr 2018 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/16B38A5D1FDC0180›

NaturEner Tax Protest: School districts tightening belts

January 3, 2018 | Shelby Promoter (MT)
Author: BRIANA WIPF For the Shelby Promoter | Section: News | 1777 Words
OpenURL Link

Shelby Public Schools has experienced a budgetary shortfall of just over $1 million ever since spring 2016 as a result of NaturEner USA's protest of its centrally assessed taxes for tax years 2015 and 2016, according to Shelby Superintendent Elliott Crump.

In Sunburst, the shortfall accounts for 20 percent of what the district receives from local taxes, said Tyler Bucklin, superintendent of Sunburst Public Schools.

Toole County also is experiencing tightened budgets. Commissioners asked each department to cut their budgets by at least five percent, said Toole County Treasurer Boyd Jackson.

At the heart of NaturEner's tax protest is a disagreement over how much money each of its three wind farms in the area generates.

"Their disagreement is with the economics of the facility, how much money they're able to generate off it, and of that money that is generatable, how much is due to intangible personal property," explained Kory Hofland, Bureau Chief of the Business Tax and Valuation Bureau and the Montana Department of Revenue.

Intangible personal property is defined by Montana Code Annotated 15-6-218, as that property which "has no intrinsic value but is the representative or evidence of value." Further, the statute requires, "To the extent that the unit value of centrally assessed property includes intangible personal property, that value must be removed from the unit value."

Intangible personal property includes assets such as "certificates of stock, bonds, promissory notes, license, copyrights, patents, trademarks, contracts, software, and franchises" or that which "lacks physical existence, including but not limited to goodwill."

The value of intangible personal property "must be removed from the unit value," according to statute.

According to Hofland, NaturEner is claiming that "their contracts to purchase power are intangible and the Department of Revenue needs to remove that" from valuation.

NaturEner declined to comment for this story.

NaturEner disagrees with the appraisal of its three wind farms in the area – NaturEner Glacier Wind Energy 1, which lies entirely in Toole County; NaturEner Glacier Wind Energy 2, which lies in both Toole and Glacier counties; and NaturEner Rim Rock Energy, which lies in both Toole and Glacier counties.

All three wind farms are considered centrally assessed property, which includes public utility properties or other properties that operate in multiple counties or states. Their value is determined by appraisers with the Dept. of Revenue.

"[Centrally assessed property] is valued as one going concern, and then that value is apportioned among the counties and school districts where the property lies," explained Hofland. "Really what we're doing is just valuing the entire unit of assets in one thing and allocating that value back down to the individual assets."

According to the Dept. of Revenue, for 2015, NaturEner is protesting 75 percent of the value of Glacier Wind 1; 47

percent of the value of Glacier Wind 2; and 67 percent of Rim Rock.

For 2016, NaturEner is protesting 94 percent of the value of Glacier Wind 1; 95 percent of Glacier Wind 2; and 59 percent of Rim Rock.

For 2017, NaturEner is protesting 94 percent of the value for Glacier Wind 1; 92 percent of the Toole County valuation for Glacier Wind 2; and 57 percent of the Toole County value of Rim Rock.

NaturEner's current tax protests regarding the 2015 and 2016 valuations are pending decision by the Montana Tax Appeal Board. Hofland said that the hope is for the appeal board hearing to take place within the next year. Following that hearing, either party can appeal the tax appeal board's decision to district court and the Montana Supreme Court, if necessary.

"So it could take a while to get a final ruling in this matter," Hofland said.

The taxes NaturEner pays under protest are deposited into an escrow account, Hofland explained. Affected school districts and counties can spend that money if they choose to, but if the Montana Tax Appeal Board sides with NaturEner's valuation of the property, both the counties and schools must pay that money back, with interest.

Dipping into that escrow fund is something both Sunburst and Shelby school districts have done, reluctantly. According to Crump, Shelby Public Schools survived for a time without spending the protested taxes by spending reserves and making cuts, including in personnel. The second year of the protest, however, the district borrowed $225,060 from the protested taxes escrow account.

"I consider it a loan of a certain type because if NaturEner wins, we will need to pay that money back with interest, and to pay that back we're going to need to get those funds from our taxpayers," Crump explained. "And the end of the [school] year, we'll be looking to take out another loan or take out from the protested taxes."

Similarly, in Sunburst, the district has had to use about $300,000 in reserve funds.

"We've used a lot of our reserves to offset those protested taxes," Bucklin said.

Sunburst accepted $75,000 in donations from NaturEner, including $50,000 to pay one non-tenured teaching staff member for the 2017-2018 school year. The other $25,000 was split between the science labs and a math curriculum upgrade.

Former Sunburst superintendent Christina Barbachano requested the donation for the staff member from NaturEner, said Peggy Tobin, Sunburst Schools business manager

"It saved a position, basically," said Tobin of the $50,000 donation.

Sunburst Schools has also used $214,000 from he protested tax funds, said Tobin.

While Bucklin doesn't call the budget shortfall a "hardship," he says the situation has presented "some unique challenges" for the school district.

As teachers have retired, they have not been replaced, and some teaching positions have been consolidated, Bucklin explained.

The staff that remains "is doing fine," said Bucklin. "They're able to run at the level they're used to. There hasn't been anything we've really tightly restricted that would impede the educational process as far as materials."

But "we look over other outside expenditures very carefully," he added.

Shelby's situation is slightly different. For one, curriculum that should have been updated and replaced last year was not. While Crump noted that the curriculum currently being used is high-quality, ultimately the loss of new information is significant.

"Things improve over time, in most cases, so it's nice to be able to bring in new materials and information to students. Our goal would have been to bring in new curriculum. Do students notice? I don't think they do, but on a large-scale, my teachers notice that and I notice that. We're a year behind on everything we should have purchased," Crump explained.

Over the past several years, as enrollment in the district has fallen, the district has reduced staff, but the budgetary shortfall is requiring that staff be reduced even more.

"Regardless of whether the protest is occurring, I probably would have reduced staff," he said.

Most recently, the district has reduced staff by two, from 41 to 39, with a possibility to reduce staff even further.

"We have [reduced staffing] through attrition, through retirements, and just not rehired or moved people to other roles," Crump said, adding there are no plans to do a "reduction in force" at this time.

Much of the reduction in spending has come through reducing staffing, but other purchases have been put on hold.

"There are little things within school districts that we just haven't been purchasing, whether paper or notebooks. We have the basics but we're not going above and beyond," Crump said. "My teachers have been purchasing things on their own. In the past, we've always given teachers an allowance. We're not doing that anymore."

The district is no longer sending teachers out of town for professional development, instead doing those activities within the district.

"Eventually we do need to get out there and see what others are doing. We're doing the best we can at the moment," Crump said.

Crump also pointed out that, even as NaturEner has protested its taxes for 2015, 2016, and 2017, it received sizable new and expanding industry abatements from Toole and Glacier counties when the wind farms were built.

Each of the three wind farms received a 10-year abatement: for the first five years the facilities would be taxed at 50 percent of their value, with that percentage going up by 10 each year thereafter until the facilities are taxed at 100 percent of their value.

According to Jackson, the Toole County Treasurer, Glacier Wind 1 and Glacier Wind 2 are both in year nine of their abatements, and Rim Rock is in year five.

Jackson is quick to point out, however, that the new and expanding industry abatement is a common strategy used by county governments to try to stimulate economic growth.

"The new and expanding abatement is open to anyone who is expanding their business, so it's not like a special thing," Jackson explained. "It's not anything that's not available to pretty much everybody if they're willing to invest some money."

Hofland noted that full resolution of the issue is at least a year away. In the meantime, the counties and school districts affected are left with a budget shortfall. Sen. Llew Jones (R-Conrad) sees a possible legislative solution whereby the State of Montana would indemnify a portion of the protested taxes until the issue is resolved.

"Since the state is in control of the appraisal, they need to bear some responsibility," said Jones.

Jones is still working on details, but he pictures the State of Montana indemnifying centrally assessed property at around 75 percent of the value, which would allow counties and district to spend up to 75 percent of the protested taxes without being required to pay that back if the state's valuation is found to be in error.

"I feel that because the state is in control of the appraisal, and claims to be expert appraisers, then we have to indemnify the locals to a certain level of spending, almost like an insurance policy. So the locals can spend some of the protested tax and be safe," he explained.

Among Jones' concerns is for the local school boards, which become so strapped for funds that they are unable to operate appropriately.

"Shelby is in a tough way… If they do spend [the protested tax money], they could have to pay back all of it, and if they don't spend it, they can't afford to keep their doors open. It's not an enviable spot to be in," Jones said.

While he is frustrated with the situation, Crump noted that the Shelby community has always been supportive of the school district.

"[The community] has always passed levies," he said.

Individual school districts are allowed to increase their budgets above their state-determined base budget by 20 percent, if the community votes to do so.

"Our community has always done that, so we're always sitting at 20 percent above, based on what the average school district gets," Crump noted.

NaturEner USA formally protests its tax bill, again

December 13, 2017 | Cut Bank Pioneer Press (MT)
Author: Briana Wipe For the Cut Bank Pioneer Press | Section: News | 384 Words
OpenURL Link

NaturEner USA has formally protested 2017 centrally assessed taxes for its three wind farms in Glacier and Toole counties, according to the Montana Department of Revenue. Currently, NaturEner is appealing their centrally assessed taxes for 2015 and 2016 for its Glacier Wind Energy 1, Glacier Wind Energy 2 and Rim Rock Wind Energy facilities.

At the heart of the protests is a disagreement between NaturEner USA and the Montana Department of Revenue (MDOR) over the valuation and possible deduction of intangible personal property, which includes certificates of stock, bonds, licenses, trademarks, contracts, software, franchises and others, according to Kory Hofland, bureau chief of the MDOR Business Tax and Valuation Bureau.

Intangible personal property is defined by Montana Code Annotated 15-6-218, as that property which "has no intrinsic value but is the representative or evidence of value." Further, the statute requires, "To the extent that the unit value of centrally assessed property includes intangible personal property, that value must be removed from the unit value."

According to Hofland, NaturEner disagrees "with the economics of the facilities, how much money they're able to generate out of it, and of that money that's generatable, how much is due to intangible personal property. They're claiming very large amounts of intangible personal property they want exempted."

For 2017, the MDOR valued Glacier Wind 1, which lies solely in Toole County, at $92.9 million. NaturEner is protesting around 94.28 percent of the value, Hofland said.

For Glacier Wind 2, which lies in both Toole and Glacier counties, the MDOR placed a $79.3 million value. At the time of the interview, Hofland said NaturEner had protested about 92.08 percent of the Toole County valuation.

For Rim Rock, which lies in both Glacier and Toole counties, the MDOR placed a $219.3 million value, and NaturEner is protesting approximately 57.22 percent of that value, said Hofland.

NaturEner did not comment at press time.

NaturEner's current tax protests regarding the 2015 and 2016 valuations are pending decision by the Montana Tax Appeal Board. Hofland said the hope is for the appeal board hearing to take place within the next year. Following that hearing, either party can appeal the tax appeal board's decision to district court and the Montana Supreme Court, if necessary.

"So it could take a while to get a final ruling in this matter," Hofland said.

NaturEner USA formally protests its tax bill, again

December 13, 2017 | Shelby Promoter (MT)
Author: Briana Wipe For the Shelby Promoter | Section: News | 434 Words
OpenURL Link

NaturEner USA has formally protested 2017 centrally assessed taxes for its three wind farms in Glacier and Toole counties, according to the Montana Department of Revenue. Currently, NaturEner is appealing their centrally assessed taxes for 2015 and 2016 for its Glacier Wind Energy 1, Glacier Wind Energy 2 and Rim Rock Wind Energy facilities.

At the heart of the protests is a disagreement between NaturEner USA and the Montana Department of Revenue (MDOR) over the valuation and possible deduction of intangible personal property, which includes certificates of stock, bonds, licenses, trademarks, contracts, software, franchises and others, according to Kory Hofland, bureau chief of the MDOR Business Tax and Valuation Bureau.

Intangible personal property is defined by Montana Code Annotated 15-6-218, as that property which "has no intrinsic value but is the representative or evidence of value." Further, the statute requires, "To the extent that the unit value of centrally assessed property includes intangible personal property, that value must be removed from the unit value."

According to Hofland, NaturEner disagrees "with the economics of the facilities, how much money they're able to generate out of it, and of that money that's generatable, how much is due to intangible personal property. They're claiming very large amounts of intangible personal property they want exempted."

For 2017, the MDOR valued Glacier Wind 1, which lies solely in Toole County, at $92.9 million. NaturEner is protesting around 94 percent of the value, Hofland said.

For Glacier Wind 2, which lies in both Toole and Glacier counties, the MDOR placed a $79.3 million value. At the time of the interview, Hofland said NaturEner had protested about 92 percent of the Toole County valuation.

For Rim Rock, which lies in both Glacier and Toole counties, the MDOR placed a $219.3 million value, and NaturEner is protesting around 60 percent of that value, said Hofland.

NaturEner did not comment at press time.

NaturEner's current tax protests regarding the 2015 and 2016 valuations are pending decision by the Montana Tax Appeal Board. Hofland said the hope is for the appeal board hearing to take place within the next year. Following that hearing, either party can appeal the tax appeal board's decision to district court and the Montana Supreme Court, if necessary.

"So it could take a while to get a final ruling in this matter," Hofland said.

The tax protests are heavily affecting local school districts, especially the Shelby School District, which is experiencing a funding shortfall of a little more than $1 million as a result of the current protests, according to an article written by Shelby Superintendent Elliott Crump that ran in the Shelby Promoter on Nov. 15.

NaturEner: Creating green energy to power 100,000 American homes

August 17, 2016 | Valierian, The (MT)
Author: KRISTI CALVERY For The Valierian | Section: News | 1284 Words
OpenURL Link

Wind turbines stood tall amidst the tumultuous grey clouds building in the sky, as I pulled into the lot at NaturEner. Up close, the large structures seemed formidable. Not long after I entered Howard Cliver's office, his cell phone buzzed with a notification, "lightning detected at seven miles away." However, Cliver, the Site Manager of Glacier Wind Farms, sat coolly in his leather chair. "All the guys will be heading in now," he said as he glanced at his phone.

At the Glacier Wind Farms, everyone takes the lightning seriously because each metal tower reaches 300 feet into the sky. To keep employees safe, Cliver said NaturEner contracts a company to track and predict lightning using satellites, similar to the system airports use. When the system detects lightning 30 minutes away, all NaturEner employees are notified, and they come back to the office, Cliver said.

Lightning is just one of the extreme weather conditions that can slow down work or stop energy production at the windfarm. Common of the region, temperatures can drop below zero during the winter months, and Cliver said, "We don't get out and work on the turbines when the temperature reaches below negative 25 degrees."

Also, although the windfarm needs wind to produce energy, Cliver said the wind turbines will automatically cutout (stop spinning) at very high wind speeds. The unpredictable Montana weather can make Cliver's job challenging, but he said he likes the variety that comes with his work, and he has learned to be flexible with more than just the weather.

Typically, Cliver arrives at work at 6 a.m. before the rest of his crew. He unlocks the doors and takes a walk around the facilities, he said. Then he looks for safety concerns before he sits down at his desk and generates reports determining how many turbines will be down for the day, he said. Before the crew arrives, he spends time checking the weather and making a plan for his crew.

When his crew arrives at 7 a.m., Cliver said they have an informal meeting, which they call "stretch and bend." The morning briefing captures any safety concerns before the crew heads out to the field for regular maintenance, repairs, to perform maintenance audits, and to gather inspection data among other tasks.

Cliver usually spends most of his day at the office making sure that the wind energy being produced is at its maximum capacity. He frequently checks the monitors which show real time displays of how much wind energy each turbine is producing.

Additionally, he plans for weekly, monthly, or annual projects. "At the beginning of next week we start our blade repair campaign," he said. During the campaign, the company will bring in a contractor, who will repair and administer maintenance to any blades with divots or other problems. Cliver said the goal is to have each turbine perform at maximum generation. There are also other tasks such as parts inventory or monthly substations inspections, which Cliver is in charge of.

Although Cliver admits the position comes with challenges, he enjoys it because, "there is always something to learn because of the changing technology." Cliver also feels a bond with the rest of the employees at NaturEner, and he tries to find better ways to be a team leader.

Cliver said the Rimrock and Glacier sites provide around 75 jobs; consequently, "the company is small and provides a family like atmosphere." Beyond working with his crew, Cliver likes to hunt and fish with the guys.

One employee, Tim Moylan, works as a Quality Auditing Wind Technician, at Glacier Wind Farms. He said the

company offers a great work environment, and he loves working outdoors. "The view in the morning and the sunsets at night make this job unbeatable," he added.

Another feature of NaturEner that is unique is their philanthropic philosophy. Cliver said their company does a lot of volunteer work. This year NaturEner employees helped with the Earth Day cleanup in Shelby, donated money to the walking path in Cut Bank, and volunteered many hours in school programs at Shelby and Cut Bank. NaturEner also plans to buy a pig from the 4-H auction this year, so that all of the employees can enjoy a family barbeque. This philosophy of gratitude comes from Cliver's understanding, "If it wasn't for the community, we wouldn't be here."

As the Site Manager of the Glacier Wind Project, Cliver didn't spend years preparing through a traditional education, but instead, he started as a ground level technician and worked his way up. Along the way, he had some very unique training experiences with manufacturing companies in places like Denmark, Germany, and Sweden.

A seasoned veteran in the wind energy field, Cliver was originally from California, and he worked on the very first commercial wind project in the United States, which was Oak Creek Energy. That company started in 1978 and he worked at Oak Creek Energy in the 1990's after a three and half year stint in the Navy. Cliver has now worked in the wind energy industry for 19 years.

Cliver started working for NaturEner in March 2010 when his brother, the original site manager, called him about the position. Cliver grew up in a small town in the Sierra Nevada Mountains with around 3,500 people, so Montana's rural location next to the Rocky Mountains was a big pull. Now, Cliver said, he and his son don't want to leave.

Fortunately, Cliver and Moylan are at a company with plans to continue their projects and expand. Candace Saffery Neufeld, Chief Operations Officer of NaturEner, said the company is finding methods to increase their viability, and they are currently looking to develop wind sites in Alberta, Canada through an affiliate.

Neufeld joined NaturEner about six months ago because NaturEner has done something she hasn't seen other renewable companies do before. Instead of waiting for infrastructure changes or new policies, she said NaturEner has shown innovation through solutions like balancing their wind power and scaling it to the grid. Neufeld said although there are transmission and policy challenges for the wind industry, NaturEner has proven it is able to leverage the existing infrastructure and policy environment successfully. She said she is excited to work with NaturEner because of their unique approach to integrating renewable energy.

Neufeld said, "Our Montana wind farms produce enough green energy to power 100,000 average American homes a year." She believes this is just the beginning, now that the company is successfully balancing its own renewable generation, it sees that there is significant potential to not only scale its development efforts but also to service other intermittent types of energy sources. The future of renewable energy has a very positive and exciting outlook. Neufeld said there is increasing evidence of positive leadership and advocating for the industry.

One example of this is the commitment made by Prime Minister Justin Trudeau, President Barack Obama, and President Enrique Peña Nie at the North American Leader's Summit. On June 29, the Office of the Press Secretary for the White House released a statement summarizing this commitment: "We announce a historic goal for North America to strive to achieve 50 percent clean power generation by 2025."

Neufeld admits the company has lately seen a depressed value of wind energy because of other sources of energy like the market influx of natural gas; however, she said she hopes that wind energy continues to grow to a point where renewable energy can contribute significantly to base load power supplied to the consumer.

The push for renewable energy is arguably justified. The Unites States Energy Information Administration reported, "In 2015, the United States imported approximately 9.4 million barrels per day of petroleum from about 82 countries."

Neufeld said besides cleaning up our energy generation, one of the chief reasons to support renewable energy, is "it creates a level of national security."

- **Citation (aglc Style)**
  KRISTI CALVERY For The Valierian, 'NaturEner: Creating green energy to power 100,000 American homes', *Valierian, The* (online), 17 Aug 2016 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/167F205C29E63628›

NaturEner: Creating green energy to power 100,000 American homes

July 13, 2016 | Cut Bank Pioneer Press (MT)
Author: Kristi Calvery For the Pioneer Press | Section: News | 1285 Words
OpenURL Link

Wind turbines stood tall amidst the tumultuous grey clouds building in the sky, as I pulled into the lot at NaturEner. Up close, the large structures seemed formidable. Not long after I entered Howard Cliver's office, his cell phone buzzed with a notification, "lightning detected at seven miles away." However, Cliver, the Site Manager of Glacier Wind Farms, sat coolly in his leather chair. "All the guys will be heading in now," he said as he glanced at his phone.

At the Glacier Wind Farms, everyone takes the lightning seriously because each metal tower reaches 300 feet into the sky. To keep employees safe, Cliver said NaturEner contracts a company to track and predict lightning using satellites, similar to the system airports use. When the system detects lightning 30 minutes away, all NaturEner employees are notified, and they come back to the office, Cliver said.

Lightning is just one of the extreme weather conditions that can slow down work or stop energy production at the windfarm. Common of the region, temperatures can drop below zero during the winter months, and Cliver said, "We don't get out and work on the turbines when the temperature reaches below negative 25 degrees. "

Also, although the windfarm needs wind to produce energy, Cliver said the wind turbines will automatically cutout (stop spinning) at very high wind speeds. The unpredictable Montana weather can make Cliver's job challenging, but he said he likes the variety that comes with his work, and he has learned to be flexible with more than just the weather.

Typically, Cliver arrives at work at 6 a.m. before the rest of his crew. He unlocks the doors and takes a walk around the facilities, he said. Then he looks for safety concerns before he sits down at his desk and generates reports determining how many turbines will be down for the day, he said. Before the crew arrives, he spends time checking the weather and making a plan for his crew.

When his crew arrives at 7 a.m., Cliver said they have an informal meeting, which they call "stretch and bend." The morning briefing captures any safety concerns before the crew heads out to the field for regular maintenance, repairs, to perform maintenance audits, and to gather inspection data among other tasks.

Cliver usually spends most of his day at the office making sure that the wind energy being produced is at its maximum capacity. He frequently checks the monitors which show real time displays of how much wind energy each turbine is producing.

Additionally, he plans for weekly, monthly, or annual projects. "At the beginning of next week we start our blade repair campaign," he said. During the campaign, the company will bring in a contractor, who will repair and administer maintenance to any blades with divots or other problems. Cliver said the goal is to have each turbine perform at maximum generation. There are also other tasks such as parts inventory or monthly substations inspections, which Cliver is in charge of.

Although Cliver admits the position comes with challenges, he enjoys it because, "there is always something to learn because of the changing technology." Cliver also feels a bond with the rest of the employees at NaturEner, and he tries to find better ways to be a team leader.

Cliver said the Rimrock and Glacier sites provide around 75 jobs; consequently, "the company is small and provides a family like atmosphere." Beyond working with his crew, Cliver likes to hunt and fish with the guys.

One employee, Tim Moylan, works as a Quality Auditing Wind Technician, at Glacier Wind Farms. He said the

company offers a great work environment, and he loves working outdoors. "The view in the morning and the sunsets at night make this job unbeatable," he added.

Another feature of NaturEner that is unique is their philanthropic philosophy. Cliver said their company does a lot of volunteer work. This year NaturEner employees helped with the Earth Day cleanup in Shelby, donated money to the walking path in Cut Bank, and volunteered many hours in school programs at Shelby and Cut Bank. NaturEner also plans to buy a pig from the 4-H auction this year, so that all of the employees can enjoy a family barbeque. This philosophy of gratitude comes from Cliver's understanding, "If it wasn't for the community, we wouldn't be here."

As the Site Manager of the Glacier Wind Project, Cliver didn't spend years preparing through a traditional education, but instead, he started as a ground level technician and worked his way up. Along the way, he had some very unique training experiences with manufacturing companies in places like Denmark, Germany, and Sweden.

A seasoned veteran in the wind energy field, Cliver was originally from California, and he worked on the very first commercial wind project in the United States, which was Oak Creek Energy. That company started in 1978 and he worked at Oak Creek Energy in the 1990's after a three and half year stint in the Navy. Cliver has now worked in the wind energy industry for 19 years.

Cliver started working for NaturEner in March 2010 when his brother, the original site manager, called him about the position. Cliver grew up in a small town in the Sierra Nevada Mountains with around 3,500 people, so Montana's rural location next to the Rocky Mountains was a big pull. Now, Cliver said, he and his son don't want to leave.

Fortunately, Cliver and Moylan are at a company with plans to continue their projects and expand. Candace Saffery Neufeld, Chief Operations Officer of NaturEner, said the company is finding methods to increase their viability, and they are currently looking to develop wind sites in Alberta, Canada through an affiliate.

Neufeld joined NaturEner about six months ago because NaturEner has done something she hasn't seen other renewable companies do before. Instead of waiting for infrastructure changes or new policies, she said NaturEner has shown innovation through solutions like balancing their wind power and scaling it to the grid. Neufeld said although there are transmission and policy challenges for the wind industry, NaturEner has proven it is able to leverage the existing infrastructure and policy environment successfully. She said she is excited to work with NaturEner because of their unique approach to integrating renewable energy.

Neufeld said, "Our Montana wind farms produce enough green energy to power 100,000 average American homes a year." She believes this is just the beginning, now that the company is successfully balancing its own renewable generation, it sees that there is significant potential to not only scale its development efforts but also to service other intermittent types of energy sources. The future of renewable energy has a very positive and exciting outlook. Neufeld said there is increasing evidence of positive leadership and advocating for the industry.

One example of this is the commitment made by Prime Minister Justin Trudeau, President Barack Obama, and President Enrique Peña Nie at the North American Leader's Summit. On June 29, the Office of the Press Secretary for the White House released a statement summarizing this commitment: "We announce a historic goal for North America to strive to achieve 50 percent clean power generation by 2025."

Neufeld admits the company has lately seen a depressed value of wind energy because of other sources of energy like the market influx of natural gas; however, she said she hopes that wind energy continues to grow to a point where renewable energy can contribute significantly to base load power supplied to the consumer.

The push for renewable energy is arguably justified. The Unites States Energy Information Administration reported, "In 2015, the United States imported approximately 9.4 million barrels per day of petroleum from about 82 countries."

Neufeld said besides cleaning up our energy generation, one of the chief reasons to support renewable energy, is "it creates a level of national security."

- **Citation (aglc Style)**
  Kristi Calvery For the Pioneer Press, 'NaturEner: Creating green energy to power 100,000 American homes', *Cut Bank Pioneer Press* (online), 13 Jul 2016 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/167F1C5363F4E138›

NaturEner: Creating green energy to power 100,000 American homes

July 13, 2016 | Shelby Promoter (MT)
Author: KRISTI CALVERY For the Shelby Promoter | Section: Sports | 1285 Words
OpenURL Link

Wind turbines stood tall amidst the tumultuous grey clouds building in the sky, as I pulled into the lot at NaturEner. Up close, the large structures seemed formidable. Not long after I entered Howard Cliver's office, his cell phone buzzed with a notification, "lightning detected at seven miles away." However, Cliver, the Site Manager of Glacier Wind Farms, sat coolly in his leather chair. "All the guys will be heading in now," he said as he glanced at his phone.

At the Glacier Wind Farms, everyone takes the lightning seriously because each metal tower reaches 300 feet into the sky. To keep employees safe, Cliver said NaturEner contracts a company to track and predict lightning using satellites, similar to the system airports use. When the system detects lightning 30 minutes away, all NaturEner employees are notified, and they come back to the office, Cliver said.

Lightning is just one of the extreme weather conditions that can slow down work or stop energy production at the windfarm. Common of the region, temperatures can drop below zero during the winter months, and Cliver said, "We don't get out and work on the turbines when the temperature reaches below negative 25 degrees. "

Also, although the windfarm needs wind to produce energy, Cliver said the wind turbines will automatically cutout (stop spinning) at very high wind speeds. The unpredictable Montana weather can make Cliver's job challenging, but he said he likes the variety that comes with his work, and he has learned to be flexible with more than just the weather.

Typically, Cliver arrives at work at 6 a.m. before the rest of his crew. He unlocks the doors and takes a walk around the facilities, he said. Then he looks for safety concerns before he sits down at his desk and generates reports determining how many turbines will be down for the day, he said. Before the crew arrives, he spends time checking the weather and making a plan for his crew.

When his crew arrives at 7 a.m., Cliver said they have an informal meeting, which they call "stretch and bend." The morning briefing captures any safety concerns before the crew heads out to the field for regular maintenance, repairs, to perform maintenance audits, and to gather inspection data among other tasks.

Cliver usually spends most of his day at the office making sure that the wind energy being produced is at its maximum capacity. He frequently checks the monitors which show real time displays of how much wind energy each turbine is producing.

Additionally, he plans for weekly, monthly, or annual projects. "At the beginning of next week we start our blade repair campaign," he said. During the campaign, the company will bring in a contractor, who will repair and administer maintenance to any blades with divots or other problems. Cliver said the goal is to have each turbine perform at maximum generation. There are also other tasks such as parts inventory or monthly substations inspections, which Cliver is in charge of.

Although Cliver admits the position comes with challenges, he enjoys it because, "there is always something to learn because of the changing technology." Cliver also feels a bond with the rest of the employees at NaturEner, and he tries to find better ways to be a team leader.

Cliver said the Rimrock and Glacier sites provide around 75 jobs; consequently, "the company is small and provides a family like atmosphere." Beyond working with his crew, Cliver likes to hunt and fish with the guys.

One employee, Tim Moylan, works as a Quality Auditing Wind Technician, at Glacier Wind Farms. He said the

company offers a great work environment, and he loves working outdoors. "The view in the morning and the sunsets at night make this job unbeatable," he added.

Another feature of NaturEner that is unique is their philanthropic philosophy. Cliver said their company does a lot of volunteer work. This year NaturEner employees helped with the Earth Day cleanup in Shelby, donated money to the walking path in Cut Bank, and volunteered many hours in school programs at Shelby and Cut Bank. NaturEner also plans to buy a pig from the 4-H auction this year, so that all of the employees can enjoy a family barbeque. This philosophy of gratitude comes from Cliver's understanding, "If it wasn't for the community, we wouldn't be here."

As the Site Manager of the Glacier Wind Project, Cliver didn't spend years preparing through a traditional education, but instead, he started as a ground level technician and worked his way up. Along the way, he had some very unique training experiences with manufacturing companies in places like Denmark, Germany, and Sweden.

A seasoned veteran in the wind energy field, Cliver was originally from California, and he worked on the very first commercial wind project in the United States, which was Oak Creek Energy. That company started in 1978 and he worked at Oak Creek Energy in the 1990's after a three and half year stint in the Navy. Cliver has now worked in the wind energy industry for 19 years.

Cliver started working for NaturEner in March 2010 when his brother, the original site manager, called him about the position. Cliver grew up in a small town in the Sierra Nevada Mountains with around 3,500 people, so Montana's rural location next to the Rocky Mountains was a big pull. Now, Cliver said, he and his son don't want to leave.

Fortunately, Cliver and Moylan are at a company with plans to continue their projects and expand. Candace Saffery Neufeld, Chief Operations Officer of NaturEner, said the company is finding methods to increase their viability, and they are currently looking to develop wind sites in Alberta, Canada through an affiliate.

Neufeld joined NaturEner about six months ago because NaturEner has done something she hasn't seen other renewable companies do before. Instead of waiting for infrastructure changes or new policies, she said NaturEner has shown innovation through solutions like balancing their wind power and scaling it to the grid. Neufeld said although there are transmission and policy challenges for the wind industry, NaturEner has proven it is able to leverage the existing infrastructure and policy environment successfully. She said she is excited to work with NaturEner because of their unique approach to integrating renewable energy.

Neufeld said, "Our Montana wind farms produce enough green energy to power 100,000 average American homes a year." She believes this is just the beginning, now that the company is successfully balancing its own renewable generation, it sees that there is significant potential to not only scale its development efforts but also to service other intermittent types of energy sources. The future of renewable energy has a very positive and exciting outlook. Neufeld said there is increasing evidence of positive leadership and advocating for the industry.

One example of this is the commitment made by Prime Minister Justin Trudeau, President Barack Obama, and President Enrique Peña Nie at the North American Leader's Summit. On June 29, the Office of the Press Secretary for the White House released a statement summarizing this commitment: "We announce a historic goal for North America to strive to achieve 50 percent clean power generation by 2025."

Neufeld admits the company has lately seen a depressed value of wind energy because of other sources of energy like the market influx of natural gas; however, she said she hopes that wind energy continues to grow to a point where renewable energy can contribute significantly to base load power supplied to the consumer.

The push for renewable energy is arguably justified. The Unites States Energy Information Administration reported, "In 2015, the United States imported approximately 9.4 million barrels per day of petroleum from about 82 countries."

Neufeld said besides cleaning up our energy generation, one of the chief reasons to support renewable energy, is "it creates a level of national security."

- **Citation (aglc Style)**
  KRISTI CALVERY For the Shelby Promoter, 'NaturEner: Creating green energy to power 100,000 American homes', *Shelby Promoter* (online), 13 Jul 2016 ‹https://infoweb.newsbank.com/apps/news/document-view?p=WORLDNEWS&docref=news/167F1EFB448A71F0›

Wind turbine shot, NaturEner offering reward of $2,500

June 3, 2015 | Shelby Promoter (MT)
Author: Staff Writer | Section: Sports | 267 Words
OpenURL Link

NaturEner, which owns and operates the Glacier Wind wind farms in Glacier and Toole counties, is offering a $2,500 reward for information on the gunshot vandalism of one of its turbines.

One of the turbines located in the Glacier County portion of the Glacier Wind 2 farm was shot sometime in mid-April. The bullet punched through the outer shell of the turbine and damaged a major cable leading to the generator, causing more than $100,000 in damage.

"Whoever is responsible for this senseless act of vandalism endangered our employees, whom actually work inside the part of the turbine that was shot, and our neighbors, as well as damaging a valuable piece of renewable energy infrastructure," said Gabriel Vaca, vice president of NaturEner. "Anyone with information about this incident should contact NaturEner and the Glacier County Sheriff."

The turbine stopped generating power on the afternoon of April 17, and the bullet damage was discovered on April 23 by repair technicians, who reported the incident to law enforcement officials.

The intense heat caused by the power surging through the cable melted the bullet, and sheriff's deputies have found no witnesses who saw or heard the gunshot.

Persons with information about this crime should contact NaturEner at 406-339-5201.

The Glacier Wind 2 facility was commissioned in 2009. It generates more than 100 megawatts of electricity, enough to power more than 35,000 homes.

NaturEner is a significant contributor to the local and Montana economy, with more than $875 million of investments in the state. NaturEner owns and operates approximately 62 percent of the existing wind power generation in Montana, enough to power 116,000 homes.

Wind turbine shot, NaturEner offering reward of $2,500

June 3, 2015 | Valierian, The (MT)
Author: Staff Writer | Section: News | 267 Words
OpenURL Link

NaturEner, which owns and operates the Glacier Wind wind farms in Glacier and Toole counties, is offering a $2,500 reward for information on the gunshot vandalism of one of its turbines.

One of the turbines located in the Glacier County portion of the Glacier Wind 2 farm was shot sometime in mid-April. The bullet punched through the outer shell of the turbine and damaged a major cable leading to the generator, causing more than $100,000 in damage.

"Whoever is responsible for this senseless act of vandalism endangered our employees, whom actually work inside the part of the turbine that was shot, and our neighbors, as well as damaging a valuable piece of renewable energy infrastructure," said Gabriel Vaca, vice president of NaturEner. "Anyone with information about this incident should contact NaturEner and the Glacier County Sheriff."

The turbine stopped generating power on the afternoon of April 17, and the bullet damage was discovered on April 23 by repair technicians, who reported the incident to law enforcement officials.

The intense heat caused by the power surging through the cable melted the bullet, and sheriff's deputies have found no witnesses who saw or heard the gunshot.

Persons with information about this crime should contact NaturEner at 406-339-5201.

The Glacier Wind 2 facility was commissioned in 2009. It generates more than 100 megawatts of electricity, enough to power more than 35,000 homes.

NaturEner is a significant contributor to the local and Montana economy, with more than $875 million of investments in the state. NaturEner owns and operates approximately 62 percent of the existing wind power generation in Montana, enough to power 116,000 homes.

Missoulian (Missoula, MT): Page 186

August 9, 2020 | Missoulian (Missoula, MT)
Missoula, Montana
Page: 186

Power problems explained by Glacier Electric

November 7, 2012 | Glacier Reporter (MT)
Author: Virginia HarmanGEC Manager of Conservation Services | Section: News | 526 Words
OpenURL Link

Last Friday, Nov. 2, all Glacier Electric Cooperative members experienced power quality problems from approximately 9:30 a.m. until 12:30 p.m.

Many members called to report flickering lights, problems with appliances and other noticeable power quality problems. As soon as the problems started to occur, GEC operations staff and engineer, Josh Dellinger, began to look into the source of the problem. It was determined almost immediately that the issue was voltage fluctuation and that it was caused by a generation source, outside of the GEC system.

"The voltage fluctuations started about 9:30 a.m.," stated Dellinger. "We immediately contacted NaturEner who tried to stabilize voltage by changing settings at their voltage controllers, but that did not work." GEC then requested NaturEner take all wind projects offline to see if that would stop the severe voltage fluctuations that our entire system, Shelby and Valier were all experiencing. NaturEner took Glacier Wind 1 and Glacier Wind 2 projects (both located south of Highway 2 between Cut Bank and Shelby) offline, but they refused to take Rim Rock off line due to the costs associated with start-up and shut-down. "NaturEner was confident that Rim Rock was not the problem. However, it was obvious to me that the problem had to be from generation and the Rim Rock project was the only possible cause," stated Dellinger. However, NaturEner continued to assert that Rim Rock was not causing the fluctuations and would not disconnect. NorthWestern Energy was asked to intervene and disconnect Rim Rock from the system, but they were reluctant to do so, even though their customers in Valier were experiencing similar voltage fluctuations. It appears that their monitoring system was not capturing the fluctuations.

NaturEner brought Glacier Wind 1 back online around 12:28 p.m., which finally stopped the voltage fluctuations, but stabilized the voltage too high. Due to the high voltage, NorthWestern Energy tripped breakers at their Glacier Wind Switchyard at approx. 12:36 p.m. This action disconnected Glacier Wind 1 and the Rim Rock project. Once these projects were both disconnected our system wide voltage stabilized at a normal level. "Judging from this sequence of events, there had to be a problem with the Rim Rock project and fluctuations could have been stopped much sooner had Rim Rock been disconnected when we first requested it," explained Dellinger.

This week Glacier Electric will be meeting with NaturEner, Northwestern Energy and Western Area Power Administration (WAPA) to discuss the recent voltage fluctuations and establish a plan for future outages that would affect the Northwestern Energy path to Great Falls or the WAPA path to Great Falls. The procedures established during these meetings will be incorporated into a revised operating guide for the NaturEner projects.

Glacier Electric wants our members to know that we will continue to do everything in our power to ensure high quality, reliable electricity. However, we hope that our members will understand that sometimes problems on our system are out of our control as they are caused by outside sources connected to the same grid. We will always work to protect the best interest of our membership. If you have any questions or concerns regarding Friday's power quality, please feel free to call us at 873-5566 or 338-5400.