

PACIFICORP ENERGY PLAN RELEASED FOR COMMENT

SHANNON ANDERSON | Powder River Staff

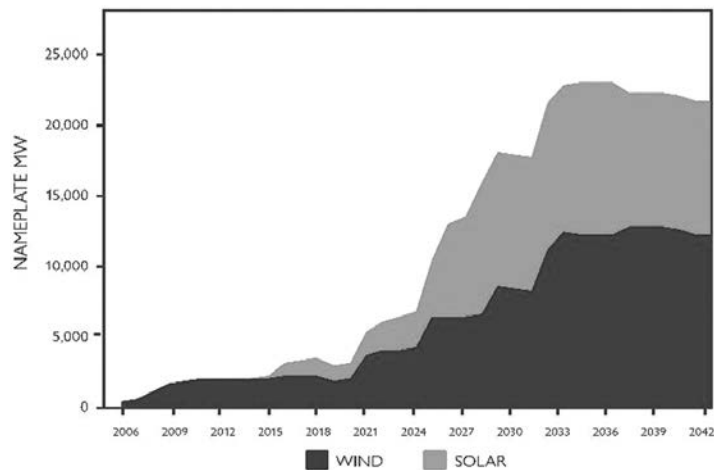
At the end of March, PacifiCorp (which does business as Rocky Mountain Power in Wyoming) released its new 20-year energy plan, detailing what new electricity generation resources the company expects to build and what generation resources it will retire during that timeframe. The plan should largely not be surprising to most who have been following utility trends in the Western U.S. and across the nation, with the acceleration of coal power plant retirements and increased renewable energy. However, some aspects of the plan will be controversial, such as increasing reliance on unproven nuclear energy technologies and converting more coal units to natural gas.

In the big picture, the plan proposes substantial investments in renewable energy and customer energy efficiency, including:

- 9,111 megawatts of new wind resources;
- 7,855 megawatts of new solar resources (most paired with battery storage);
- 8,095 megawatts of storage resources, including batteries co-located with solar generation, standalone batteries and pumped hydro storage resources; and
- 4,953 megawatts of capacity saved through energy efficiency programs.

The plan also includes new transmission lines to ensure these new renewable energy resources are able to meet customer demands across the company's six-state territory.

WIND AND SOLAR CAPACITY*



PacifiCorp IRP

On the smaller scale, PacifiCorp's plan also includes exciting initiatives related to customer electric vehicle use and home battery storage for net-metered renewable energy systems.

PACIFICORP continued on page 10

Air quality monitoring in Laramie County

KATHERINE STAHL | Powder River Staff

Just outside of Wyoming's most populous city, Wyoming's most profitable industry is booming. Oil and gas infrastructure dots the landscape like freckles on a seasoned rancher's face. Access roads, storage tanks, pipelines, flares, drilling rigs, sound barriers, pumpjacks – all obvious signs of a growing industry whose lack of planning and coordination has created a mess on the natural landscape. But the oil and gas development here is not the only story. People live here, not just in the city, but outside, amidst the flares and storage tanks and drilling rigs. In Laramie County, residential and industrial

development exist side by side. Here, the potential for oil and gas production to have greater-than-usual impacts on people is particularly high.

This potential for human health hazards creates a necessity for ambient air quality monitoring, which Wyoming's Department of Environmental Quality (DEQ) is conducting. In January of this year, DEQ stationed a mobile ambient air quality monitoring station in rural Laramie County. According to Wyoming's air monitoring website, the purpose of the monitor is "to characterize ambient air in an area of oil and gas development intermingled with rural residential populations."

AIR QUALITY continued on page 9

Message from the chair



While one may never be certain, it appears that spring has come. The days are longer and, however unevenly, warmer. I think of spring as a time of renewal and transformation. The Chinese T'ang dynasty poet Han-shan who lived sometime between 577 and 941CE and who took his name from his hermitage at Cold Mountain wrote:

The seasons never rest
a year leaves and a year arrives
creatures take their turns
the Heavens don't decay
the east gets bright the west gets dark
flowers fall and blossom again

It's a poem about the cycles of life and our place in those cycles. And that makes me think about the sun's potential role in the production and use of electricity. We have long depended upon fossil fuels to burn in our automobiles, trains, buses, and planes as well as to make the electricity we use in our homes, businesses, and factories. But now we see the limits of that use in terms of resource management, habitat destruction, and ever increasing and more worrisome degradation of the air, water, and soils.

We ask ourselves how we can maintain the material wellbeing we sometimes take for granted while making the transition to new forms of energy production and use. PacifiCorp, operating in Wyoming as Rocky Mountain Power has recently released its 2023 Integrated Resource Plan (IRP) proposing "investments in modernized transmission, renewable energy, storage, demand response, and advanced nuclear resources." Reading further I learn the company seeks to continue the use of fossil fuels while increasing its capacity to generate electricity from renewable sources—largely wind and solar—and from what it calls advanced nuclear plants.

I feel heartened that PacifiCorp will invest in renewable energy but concerned about the commitment to nuclear power. While many knowledgeable people feel that we must develop nuclear power plants in order to mitigate the increasingly disruptive effects of climate change, other equally knowledgeable people offer compelling testimony opposing such development.

On January 25, 2022, the former heads of nuclear power regulation in the U.S., Germany, and France, along with the former secretary to the UK's government radiation protection committee, issued a joint statement that included: "As key experts who have worked on the front-line of the nuclear issue, we've all been involved at the highest governmental nuclear regulatory and radiation protection levels in the US, Germany, France, and the UK. In this context, we consider it our collective responsibility to comment on the main issue: whether nuclear could play a significant role as a strategy against climate change.

"The central message, repeated again and again, that a new generation of nuclear will be clean, safe, smart, and cheap, is fiction. The reality is nuclear is neither clean, safe or smart; but a very complex technology with the potential to cause significant harm. Nuclear isn't cheap, but extremely costly. Perhaps most importantly, nuclear is just not part of any feasible strategy that could counter climate change. To make a relevant contribution to global power generation, up to more than ten thousand new reactors would be required, depending on reactor design."

In addition to these economic and environmental limitations, I've had longstanding concerns about the possible release of radioactive materials from nuclear plants and from the thorny problem of how to dispose of nuclear waste. Recently, the Russian invasion of Ukraine has heightened tensions around possible attacks on nuclear plants and ensuing environmental disasters. And so, while I'm glad that PacifiCorp has chosen to increase its production of energy from renewable sources, I wish its commitment was even greater.

One of the arguments made against renewable energy is that it diminishes the stability of the power grid—sun doesn't shine, no power, wind doesn't blow, no power. One helpful step we could take would be to decentralize the national grid through local energy production—every new house and business in Wyoming sited for maximum solar gain and solar panels installed as a part of all new construction. It'd be a positive step toward energy production, especially as battery storage improves, and its use would be both more climate neutral and less prone to large scale disruptions. It would also allow us to avoid some of the risks associated with both fossil fuel production of energy and the proposed increase in nuclear power production.

Now I return to Han-shan, to spring, and to the sun in my eyes asking me to think about it.

David Romtvedt

POWDER RIVER BASIN RESOURCE COUNCIL (POWDER RIVER) is a grass-roots organization of individuals and affiliate groups dedicated to good stewardship of Wyoming's natural resources. Powder River was formed in 1973 and stands for the preservation and enrichment of our agricultural heritage and rural lifestyle; the conservation of Wyoming's unique land, minerals, water and clean air consistent with responsible use of these resources to sustain the livelihood of present and future generations; and the education and empowerment of Wyoming's citizens to raise a coherent voice in the decisions that will impact Wyoming residents' environment and lifestyle.

POWDER RIVER IS A MEMBER OF the Western Organization of Resource Councils (WORC). WORC member groups are Dakota Resource Council, Dakota Rural Action, Idaho Organization of Resource Councils, Northern Plains Resource Council, Oregon Rural Action, Western Colorado Congress, Western Native Voice and Powder River Basin Resource Council.

THE SERVICES PROVIDED by Powder River include public education, community organizing and lobbying as permitted on behalf of its membership. Powder River is a non-profit, 501 (c)(3) tax-exempt organization.

MEMBERSHIP DUES: \$30 for individuals, \$50 for families and \$20 for students and senior citizens. Powder River is dependent on contributions for its work; contributions, large and small, are welcomed.

ACTIVE AFFILIATE ORGANIZATIONS

- Alliance for Renewable Energy (ARE)
- Clark Resource Council (CRC)
- Cheyenne Area Landowners Coalition (CALC)
- Pavillion Area Concerned Citizens (PACC)
- Sheridan Area Resource Council (SARC)

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POWDER RIVER BREAKS

EDITOR: Robin EH. Bagley
Photos by Powder River staff and members.

Our survival depends on scruffy little packages

PENNIE VANCE | Powder River Staff

Without seeds, life on Earth as we know it would not exist. Those billions of scruffy little packages of genetic material are essential to our survival. Yet today our supply of diverse, healthy seed stock, which is essential to a sustainable food system, is endangered.

The United Nations Food and Agricultural Organization reports that we have lost 75% of genetic diversity in plants globally since the early 1900s, and 93% of seed varieties have disappeared. This began in the 1930s when owning the genetics of a seed through patenting became legal. The result is that today, four giant corporations have bought out hundreds of seed companies and now have rights to over two-thirds of the world's seed supplies.

Those corporations own not only the seed, but the entire seed production and use process, particularly for vital grains such as corn, wheat, and rice. Farmers who fail to adhere to contracts protecting the process have been fined millions of dollars. We've increasingly lost ownership of our own food system. Quite clearly, our food sovereignty is at stake.

Fortunately, a global movement of gardeners, small farmers, independent seed companies, government agencies, and organizations such as Powder River, are helping halt the

destruction of our planet's diverse seed stock and breaking the ownership hold big corporations have on our food system.

At the heart of these movements is the simple but vital practice of saving seeds from the plants we grow, a practice almost as old as mankind itself. Seed saving is not a trend, it's critical to our food system. In the words of Helene Schulze, co-director of a London seedbank, "If you own the seeds, you own the food system." That's food sovereignty.

Powder River's contribution to this movement began a number of years ago when our members helped establish the Sheridan Seed Library, which today resides in the Sheridan Fulmer Public Library.



Powder River staff solicit donations from heirloom seed companies, and our Local Foods Group maintains the library. They sorted, packaged, and cataloged hundreds of seed packets in late April. Local residents can then "check out" five seed packets each month at no cost and are encouraged to save seeds to donate back to the library.

Because the seed saving part of the equation is consistently less at our seed library than the checking out part, Powder River will be invigorating the seed saving factor this year by conducting one or more seed saving workshops. Although the details of the workshops are not yet determined, we are excited about the small part that we will play in the essential practice of saving seeds to strengthen our food sovereignty. Stay tuned for updates!

IEEFA: Coal use by U.S. electric-power producers is falling

INSTITUTE FOR ENERGY ECONOMICS AND FINANCIAL ANALYSIS

The United States is quickly approaching an electricity sector milestone: in 2026, half of the coal-fired generation capacity will have closed since it peaked in 2011, according to a new report from the Institute for Energy Economics and Financial Analysis (IEEFA).

This is now the earliest date for this milestone since IEEFA began closely tracking coal-plant retirements, and it has moved up despite high prices for gas, a major competitor to coal, and construction delays for renewables largely caused by pandemic-induced supply disruptions. By another measure—actual electricity generation—the U.S. has cut coal use even faster, producing less than 50% of coal's 2011 power level in both 2020 and 2022.

Based on current announcements from utilities, coal capacity will fall to 159 gigawatts (GW) by the end of 2026, down from 318GW in 2011. With more than 80GW of power plants set to stop using coal between 2023 and the end of 2030—a figure that includes mostly closures, with a limited number of conversions from coal to gas—total coal-fired capacity will fall to just 116GW by 2030. And actual coal use is likely to continue falling even faster, as aging units face higher operation and maintenance costs, and utilities increasingly favor the responsiveness of gas generation and

battery storage to complement the variable output from solar and wind, both continue to be built at a rapid clip.

"This milestone is another clear sign of the ongoing and deep restructuring of the U.S. coal industry, as demand for the fuel continues to drop quickly," said Seth Feaster, IEEFA energy data analyst and author of the report. "It is likely to result in significant mine closures, layoffs, and falling tax and royalty payments in coal-producing states."

By the end of this decade, more than 200GW of the 318GW of peak coal-fired power will have been retired, based on current announcements. By then, coal consumption by the power sector could fall to just half of this year's expected level, to about 200 million tons, IEEFA estimates.

U.S. utilities, all of which are engaged in long-term generation planning and capital spending budgets, have been finalizing their energy portfolio decisions. Most plans now include deep cuts or a complete phase-out in coal use (if they still have any), big buildouts of wind, solar, and battery storage, and a reliance on existing gas generation plants.

Reading through dozens of utility resource plans, financial statements, and announcements, the picture is clear: Quite simply, utilities no longer see coal as part of their future.

Read the full report here: ieefa.org/resources/us-track-close-half-coal-capacity-2026

Bill Barlow Memorial Youth in Conservation Awards 2023

LIZA CUTHBERT-MILLETT
Powder River Board Member

The Wyoming State Science Fair provides a forum for sixth through 12th grade student scientists to conduct and share original research across 12 project categories of science, engineering, technology and mathematics. The Bill Barlow Memorial Youth in Conservation awards are presented in the memory of the great rancher, conservationist and founding member of Powder River, Bill Barlow. These monetary awards honor projects that examine Wyoming's ecosystems, the ecological impacts of development (industrial, residential, commercial and recreational) on sustainable agriculture and energy conservation/renewable energy.

This year I had the distinct honor of serving with Powder River board members Maria Katherman and Mikel Scott and staff member Jarad O'Brien as jurors for the awards. The judging process this year was bifurcated with one week of virtual access of project materials and then in person interviewing and judging on March 6 in Laramie at the University of Wyoming. The virtual materials were there for us to consider which projects we might consider for our awards. But we really needed to be in person to see their posters and to interview the students.

Maria, Mikel and I independently read through all the virtual project materials and made lists of those that we felt most appropriately addressed our award criteria. We then met via Zoom to discuss and choose potential winners and the projects we wished to interview in person. The Wyoming winter yet again delivered road closures and unfortunately Maria and Mikel could not travel to Laramie. Thankfully they gave me excellent questions to ask the students and Jarad helped with the in-person interviews. Yay team PRBRC!!

The first Youth in Conservation Award was presented to Pinedale middle school student Juniper Dale for her animal science project "Sculpin Health in Sublette County." Juniper collected mottled sculpin (*Cottus bairdii*) in three drainages to determine which drainage was the healthiest using their weight and length as health indicators. Sculpin are prey and predator of trout and are fed on by other fish and wildlife. She postulated that their health might be an indicator of stream ecosystem health. We liked the study as it was focused/creative (they made their jigs from forks on sticks) and had larger implications for ecosystem health. We also appreciated she had thought about ways to improve the study in the future as well as using the frozen sculpin for bait later. Recycle!!

The senior division award went to Carolyn Boyer from Greybull for her project "Application of Coal Fly Ash as a Component of Reprocessed Polystyrene to produce a unique building material." Fly ash is a byproduct of coal combustion and polystyrene is another plastic waste, which has no good recycling option. Boyer used different amounts of fly ash added to polystyrene/acetone mixture that she dried and then tested them for strength using a concert rebound tester. Again, this was very creative and used clear scientific methods to create an innovative solution to both coal ash and styrofoam waste.

The final award went to Shanti Junker from Lander High School for her project "Measuring Methane Output in Manure

from corn-fed cows and grass-fed cows." Shanti has won our award before (2021) as a junior and demonstrates curiosity, creativity and an understanding and joy of the scientific process. Interestingly, Shanti could not attend in person due to road closures, so Maria was able to interview her via zoom as did Jarad and I. This underscores the importance of interviews! Shanti built her own anaerobic digesters using 5-gallon buckets with lids in a plastic tote with water and a thermal immersion circulator to maintain the water temperature between 38°C and 40°C (100°F - 105°F). The results demonstrated that grass-fed cow manure had an average emission rate approximately 80% less than that of the corn concentrate-fed cow manure. This was a clever, low-cost, well-designed study that demonstrated how sustainability in agriculture (grass fed cows vs corn fed cows) is important to climate.

Each awardee was given \$250.00 a certificate and a membership to Powder River. They are all our future! I thank all of my judging team and encourage other members to come and judge next year. It is a wonderful and uplifting experience and hope for Wyoming's future!



Juniper Dale (top) and Carolyn Boyer (bottom) with Powder River staff member Jarad O'Brien with their winning projects.

THE BUG GUYS ARE BACK

Beet molasses injection is latest ploy for renewable natural gas

SHANNON ANDERSON
Powder River Staff

It's been a minute, but some of you readers may remember Ciris and Luca, the two companies that pushed through legislation in 2011 to allow them to inject "food-grade" additives into the coal seam. The plan was to inject calcium, magnesium, phosphate and glycerol, among other substances, which the companies claimed would encourage microorganisms present in the coal seam aquifer to reproduce, feed, and release more coalbed methane gas.

The companies called it "methane farming." Powder River members were naturally very skeptical and pushed for better regulation from the Department of Environmental Quality (DEQ) and the Wyoming Oil & Gas Conservation Commission (WOGCC), as well as the Bureau of Land Management (BLM), who had a direct stake because of federal coal and CBM. After some experiments failed, Luca went bankrupt in 2013 and Ciris went under soon thereafter.

In March 2017, WOGCC voted to revoke Ciris's bonds, adding Ciris wells to the orphan well list for state contracted cleanup. Just this month, the WOGCC went back to the Ciris issue and ordered the wellfield equipment abandoned, authorizing staff to salvage and decommission what is left of the project.

A decade later, enter Cowboy Clean Fuels, which has followed the Luca/Ciris business model of obtaining now-idle CBM wells with the hope of bringing them back into production through coal seam microbial stimulation. Cowboy Clean Fuels tapped University of Wyoming research-scientist Michael Urynowicz and touts it will reap success by using beet molasses. The company also has some over-the-top claims such as it will produce "the world's first carbon negative, renewable natural gas." Calling it "revolutionary clean energy technology," Cowboy Clean Fuels hopes



This cartoon was originally published in 2011 after the Wyoming Legislature passed the bill referenced in the article. Everything old is new again. *Cartoon by Ellen Dudley*

its gas production can be used to meet market demands for lower-carbon and environmentally-cleaner fuels. It remains to be seen whether the company can produce any product, yet alone one that can be successfully marketed in such a way.

The first step for the company is an underground injection control (UIC) permit from the DEQ under the Safe Drinking Water Act. The permit will allow injection of substances into an underground source of drinking water. Since the coal seams of the Powder River Basin's Fort Union Formation are aquifers, this type of permit is necessary. The company is starting small with only a few wells at play initially, but it has hopes to ramp up to the full-scale of injection at dozens of wells in the Triangle CBM Unit along Iberlin Road in Campbell and Johnson Counties.

Notably, the BLM has yet to weigh in on the project, and questions about whether the company needs to obtain a federal coal lease to carry out its project or whether such activities are lawful under a federal oil and gas lease may cloud the future of the project.

Back in 2012, when Luca went to BLM for a permit, questions about monitoring to measure impacts to the federal coal resource and permitting costs derailed the project. Powder River staff and members have been doing a bit of monitoring of our own, closely following the Cowboy Clean Fuels proposals. We will be submitting comments to the DEQ and engaging with the BLM and other agencies as necessary to ensure publicly-owned mineral resources are developed responsibly and without risk of further adding to the state's already overburdened orphan well list.



SCHROCK JOINS POWDER RIVER STAFF

KATHERINE SCHROCK | Powder River Staff

Hi, everyone! My name is Katherine Schrock, and I am the new Office Manager/ Donor Relations Coordinator for Powder River Basin Resource Council. My husband and I moved from the Twin Cities - Minnesota to Sheridan in December 2018. The first to welcome us, our landlord, neighbor and new friend, was Bernie Barlow. Naturally, Powder River was among many of our introductory lessons on the amazing state of Wyoming.

A graduate of the University of Minnesota, Minneapolis in Parks and Recreation Administration, I served in an administrative capacity for both municipal and private recreational entities. The highlight of my career in Recreation was in the creation, ownership and operation of Minnesota's first Swim School Organization alongside my husband Peter. Together we operated up to three locations teaching thousands of young ones to love swimming over a 28-year period of time. Our Family Swim School was unique in its time with very small classes, warm water, amazing curriculum and a dedicated mature staff. Recreation continues to be an important part of my life with lap swimming, yoga, biking, hiking, camping, fishing and gathering with friends and family.

My husband Peter and I raised our son and daughter in Lakeville, MN. Unlike their parents who moved west, they both moved east into Wisconsin. Carrie the oldest resides in Milwaukee, and Frank in Eau Claire. We all take turns visiting each other in our respective new home towns.

Entering into employment with Powder River is an opportunity in my spectrum of work that I am really looking forward to. Meeting and working for the people of Wyoming who are passionate about their home land, protecting it now and for many generations to come.

Coal companies save for final reclamation costs

SHANNON ANDERSON | Powder River Staff

These days there doesn't seem to be a lot of good news about the coal industry. But one trend that is positive to report is companies creating savings accounts to cover final reclamation costs. For years, our members have been concerned that the end of mine reclamation and cleanup wouldn't be adequately funded because that is the very time when companies are no longer mining coal and making money. This means that unless they set aside the funding, it isn't likely to be available. Therefore, one of our main recommendations for the industry is to create a sinking fund, like a savings account dedicated to the purpose of funding reclamation costs.

The first company to announce such a fund was Arch, after their announcement of the upcoming closures of their Powder River Basin mines, including the Coal Creek Mine and the Black Thunder Mine. In recent financial reports, Arch has disclosed that it now has sufficient funds set aside to cover all anticipated reclamation costs at both mines, ensuring funds will be available to responsibly close their Wyoming thermal coal mines as the company transitions to a focus on metallurgical grade coal back east.

Following pressure from the surety companies that guarantee their reclamation bonds, Peabody has also created a sinking fund for reclamation. The company now has \$150 million set aside to support future reclamation obligations.

Unfortunately, Arch and Peabody are the only publicly traded coal companies left in Wyoming so we're not sure if this trend is playing out with other companies or not since they don't publicly disclose their financial information. Regardless, since Arch and Peabody operate the two largest coal mines on the planet, their efforts to ensure adequate funding for reclamation of these mines is critical to the responsible closure of these mines.



Tallgrass Midstream, methane venting, and climate change

DAVID ROMTVEDT
Buffalo

It wasn't so many years ago that many of us didn't believe climate change existed. Others believed it was real but not caused by human activity, that it was a natural phenomenon, that our climate had undergone wide swings over time. No more. There is now nearly universal recognition of the reality of climate change and of the ways our actions increase the severity of its effects.

But while we've come to recognize the problem, we've not yet been able to settle on what to do about it. Some of us — often former deniers of climate change — say it's too late to do anything. We should adapt — learn to live with greater temperature extremes, more and more intense hurricanes and tornadoes, floods caused by atmospheric rivers of rain, and in the western U.S. nearly year-round fire season. Others say we must act quickly to develop renewable energy sources such as wind and solar, or invest in cleaner burning fossil fuels, natural gas rather than coal, for example, or build new nuclear power plants using smaller and perhaps safer liquid sodium cooled reactors.

In our disagreements over finding global solutions, we sometimes forget smaller but still helpful steps we can take. This was brought home to me when I learned about a recent methane venting operation conducted by Tallgrass Midstream at its Douglas gas plant. On Dec. 7, following a maintenance project that caused high oxygen levels, Tallgrass carried out five separate safety releases. The company reported to the Department of Environmental Quality a total of 2.1 metric tons of methane vented into the atmosphere. That figure though is substantially lower than what was reported by the United Nations Environment Programme's International Methane Emissions Observatory. Using data from NASA's Landsat 9 satellite corroborated by two European satellites, IMEO geospatial scientists recorded a 4.6-mile-long gas cloud over the Tallgrass Douglas plant, noting such a cloud indicated a release of from 76 to 184 metric tons per hour of methane.

If those scientists' estimates are correct, Tallgrass dramatically underreported the emissions level. Compounding the problem, DEQ didn't independently verify the Tallgrass report. As methane is a powerful greenhouse

gas with over eighty times the atmospheric warming influence of carbon dioxide, limiting its release is critical to minimizing climate change. And because inaccurate reporting of emissions leaves us ignorant of the scope of the problem and so uncertain about corrective actions we should take, the Tallgrass venting is deeply worrisome.

Beyond avoiding unnecessary methane releases and accurately reporting all releases, what could Tallgrass do in the future? Fix leaks. The International Energy Agency, a Paris based intergovernmental organization, estimates the worldwide oil and gas industry can achieve a 75% reduction in released methane using current technologies to cut the number of methane leaks. IEA figures show two-thirds of this reduction can be achieved at no net cost. Because of methane's intense warming effect, such a reduction would be an immediate way to protect arctic sea ice and so limit both rising sea levels and changes in ocean currents and water temperature that lead to weather instability. Fixing leaks can play a critical role in reducing many of the most damaging effects of climate change.

Of course, the recent Tallgrass venting was not because of a leak. And the discrepancy between what Tallgrass reported and what the UN's International Methane Emissions Observatory recorded leaves us uncertain as to the true scale of the event or if it indicates

negligence. Still, while stopping leaks would not have prevented the recent release, stopping leaks is the single most effective way to keep methane from being introduced into the atmosphere. It's part of a total program Tallgrass could implement.

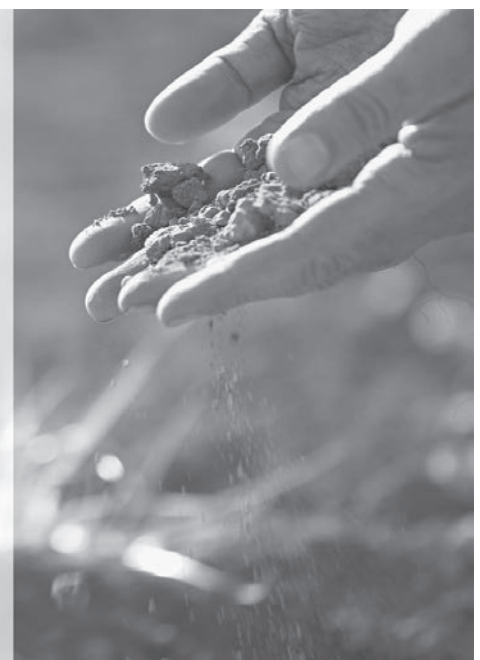
There are things the Department of Environmental Quality could do, too. One is to enforce reporting requirements on methane emissions. To this end, DEQ could require that Tallgrass install a vent meter. Then whatever the cause, we'd have an accurate picture of how much methane has been introduced into the atmosphere.

And me, what can I do? Even small changes can help — turning the heat down in the winter and the air conditioning up in the summer, living close to my work so I can walk or bicycle, turning out the lights when I leave a room.

DEQ, Tallgrass, and we as individuals can all help limit the social and economic damage caused by climate change. We can act for the common good. And we can fix the leaks.

David Romtvedt is a writer and musician from Buffalo, Wyoming. He serves as the current board chair of the Powder River Basin Resource Council.

EDITOR'S NOTE: This was originally published in the Feb. 24, 2023 edition of the Casper Star-Tribune.



Funding available for community infrastructure improvements

MICHELE IRWIN | Powder River Staff

You have probably been hearing about a lot of federal money floating around thanks to Congress passing the Bipartisan Infrastructure Law and the Inflation Reduction Act. That additional funding has created new pots of money and creating new opportunities in existing pots of money long used by communities for infrastructure improvements and upgrades.

That's good news for communities like Kemmerer. The small community in Southwest Wyoming needs to upgrade their wastewater treatment plant as they look to host a new large workforce at a proposed nuclear power plant. The Kemmerer/Diamondville Water & Wastewater Joint Power Board estimates it will need \$40-\$50 million to build a new wastewater treatment plant. The communities have received around \$3 million from state funding, but that will barely cover some temporary fixes and they need much more to complete the project. "We are between a rock and a hard place. It is a challenge for small towns to raise the needed revenue due to low population," superintendent of the wastewater treatment plant Brent McClarnon told the Kemmerer Gazette last month. "We also need a backup generator for the wastewater treatment plant — especially with the nuclear power plant coming in. If we have a power outage, we could not supply them with water."

Communities can also look to various federal government agencies for funding assistance for renewable energy projects,

It is nearly impossible to adequately summarize all of the funding opportunities that are available to local governments, small businesses, and communities, but several good online sources include:

Rocky Mountain Institute's sortable database of federal incentives: <https://rmi.org/breaking-down-the-inflation-reduction-act-program-by-program-incentive-by-incentive/>

Blue Green Alliance Energy Communities Fact Sheet: <https://www.bluegreenalliance.org/resources/energy-communities-fact-sheet/>

Just Transition Fund Federal Access Center: <https://justtransitionfund.org/federal-funding-support/>

Energy Communities funding website: <https://energycommunities.gov/>

There are many opportunities to make our communities more resilient while also investing in sustainable, diversified economies that are not tied to energy extraction alone.

which helps lower utility bills for local governments, saving valuable taxpayer dollars. The Inflation Reduction Act included an additional ten percent bonus tax credit for clean energy projects if they are built in former fossil fuel communities, and include such community benefits as labor engagement, quality job creation, and

benefits to disadvantaged communities. Since the Inflation Reduction Act expanded renewable energy tax credits to become a direct-pay system for local governments and nonprofits that do not pay federal income taxes, communities in Wyoming can invest in renewable energy and receive savings on the upfront costs of these projects.



The monitor is located at a rural fire station in Laramie County, a few miles away from the tangled web of industrial and residential development unique to the county's landscape. Locations for ambient air quality monitors must meet a laundry list of conditions: downwind of oil and gas facilities, unobstructed by trees and buildings, easy for technicians to reach, and reliable access to electricity. The rural fire station location meets all those conditions, but is so far downwind of oil and gas development that some area residents are concerned its readings may not provide meaningful data.

The Cheyenne Area Landowners Coalition (CALC), an affiliate of Powder River, recently sent a letter to DEQ expressing their concerns over the monitor's location. CALC is an organization of property owners and residents dedicated to protecting the health, safety, financial, and lifestyle interests of people whose properties are impacted by mineral mining and extraction-related processes. With members that have seen the oil boom in Laramie County and watched as the prairie was torn away to accommodate this extractive industry, CALC is uniquely positioned to speak on the landscape, environmental, and human impacts of oil and gas development.

While degradation of the landscape and environment as a result of oil and gas development is clearly visible, human health impacts are more obscure. CALC hears complaints of smoke alarms going off in the middle of the night with no explanation, persistent respiratory problems, and even gastrointestinal and neurological health issues. Although correlation is not causation, these complaints grew in number and frequency as oil and gas drilling intensified in Laramie County. Health complaints correlating with oil and gas expansion are not surprising or unusual. There is a vast and growing body of research tying emissions from oil and gas extraction and production to human health concerns.

The oil and gas industry is the largest industrial emitter of volatile organic compounds (VOCs) globally. VOCs react with nitrogen oxides, another industrial emission, in the presence of sunlight to form ground-level ozone. Although children, the elderly, and those with underlying health conditions are most susceptible, ground-level ozone can cause respiratory distress in all people. If other pollutants are absent, VOCs can still be harmful. Peer-reviewed research and lived experiences establish that sufficient VOC exposure can increase cancer risk, damage the immune and respiratory systems, cause smell loss, increase risk of miscarriage and birth defects, and disrupt the fetal endocrine system to contribute to third-generation impacts.

These complex and varied potential health impacts are cause for real concern and illustrate the necessity for strong ambient air monitoring, particularly in an area where residents report frequent gas flaring, and where storage tank leaks have been well documented.

Powder River and CALC member-leader Wayne Lax provides evidence of excessive flaring, visible from his bedroom window in Laramie County. Over the course of one year, Lax noted every instance of flaring at the facility close to his house. All in all, he documented 75 days of flaring, or nearly one fifth of the year. Unfortunately, this level of flaring is not unusual. The Wyoming Oil and Gas Conservation Commission routinely approves extensions of flaring authorizations and increases in flared gas volumes. Flaring is a significant source of oil and gas related air pollution, further illustrating the need for adequate air quality monitoring. The simple fact of the matter is that the Laramie County Mobile ambient air quality monitoring unit is situated too far from oil and gas production to pick up on the most concerning emissions.

"There are certainly better places that the DEQ air monitoring unit could be located than the current location. There is a lot of drilling and well activity in the north and eastern areas of Laramie County that are close to Cheyenne that would benefit from monitoring the air. We will continue to work at getting the word to DEQ and hopefully they will take a serious look at moving the unit closer to where a lot of activity is happening. We will also look at alternative ways to monitor the air quality through our own efforts," stated Lax.

Air pollution is generally invisible and odorless, meaning that people rely on adequate monitoring to assess air safety. It is important that DEQ consider residents' lived experiences when deciding where to locate an air monitor. In Laramie County, the lived experience is one of highly interspersed industrial and residential development. Oil and gas extraction is happening quite literally in people's backyards. The economic boon of oil and gas does not negate the potential health hazards of living in close proximity to this industry. In their letter to DEQ, CALC urged the agency to consider an alternative monitoring framework to better reflect the needs of rural Laramie County residents, suggesting that the monitor be moved to a residential location closer to oil and gas development. Meaningful air quality regulation hinges on meaningful air quality monitoring. Moving the monitor is a step towards a safer and healthier future for those living with oil and gas.



Oil and gas development near Cheyenne. *Photo courtesy of Caitlin Tan/Wyoming Public Media*

With all of these renewable energy resources coming online, that means reduced reliance on the company's coal plants, including ones here in Wyoming. The plan proposes to convert all four units of the Jim Bridger plant outside of Rock Springs to natural gas, ending coal at the state's largest coal plant by 2030. The plan also proposes to retire three of the four units of the Dave Johnston coal plant outside Glenrock by 2028, and the Naughton coal plant is still slated to stop burning coal mid-decade. Meanwhile, across the border in Montana, PacifiCorp anticipates exiting from the behemoth Colstrip plant by 2030.

Two Wyoming coal plants are projected to continue running, including Wyodak outside of Gillette and the youngest unit of the Dave Johnston coal plant. However, the company continues to ignore federal clean air requirements that will likely make these coal plants uneconomic in the near future.

Notably, PacifiCorp does not anticipate any carbon capture projects at any of its coal plants, ruling out carbon capture on cost grounds. Nevertheless, the company retains a commitment to continue evaluating the option, as

required under Wyoming law. PacifiCorp submitted an update on compliance with the state's carbon capture mandate at the end of March, and a final plan is due to the Public Service Commission at the end of March next year.

On the nuclear front, PacifiCorp says it will finalize agreements with TerraPower by the end of the year for the proposed Natrium plant at the Naughton coal plant. TerraPower is expected to submit an application for a Nuclear Regulatory Commission (NRC) license this summer, but there are still many unknowns about how the unproven technology will work, where the necessary HALEU fuel source will come from, or how much the plant will cost. In spite of these uncertainties, PacifiCorp plans to triple its reliance on nuclear energy over the next decade.

The bottom line is the company's plans are very significant and will drive Wyoming's grid of the future for years to come. We encourage customers to get involved and submit comments on the company's plan, both the good and bad aspects. Comments can be submitted to irp@pacificorp.com, and watch for information from us on how to get involved.

**Solar
Stats**

**426
KWH**

**666 POUNDS
CARBON OFFSET**

**5 TREES
FOR FEBRUARY
AND MARCH**

ROCKY MOUNTAIN POWER PROPOSES SOLAR BATTERY INCENTIVE PROGRAM

CLAIRE DEUTER | Powder River Staff

Rocky Mountain Power (RMP) recently applied to the Wyoming Public Service Commission (PSC) for approval of the Wattsmart Battery Program, a new grid management and battery incentive program that is part of a proposed three-year demand side management plan.

The goal of the Wattsmart Battery Program is to allow RMP to better manage the grid through a system called utility-controlled demand response. The program would give RMP access to participating customers' battery systems, allowing the utility to draw energy from the batteries to meet energy demands when needed. The utility would draw from customer batteries at generally infrequent rates for about five minutes at a time. For RMP to have access to residential batteries, the batteries must have certain technological capabilities which limit the variety of battery manufacturers that customers can choose from. Customers would still own their batteries and would be responsible for all upfront installation costs.

The Wattsmart Battery Program would compensate customers for their voluntary participation in the program while also incentivizing residential battery installations in homes with solar panels. RMP would compensate customers through a direct pay enrollment incentive and an annual bill credit. According to RMP's application, the utility would require customers to commit to the program for a minimum of four years to receive an enrollment incentive. After the commitment term, customers would have the opportunity to receive an annual incentive for their continued participation beyond the initial commitment term. Customers with pre-existing eligible batteries may also participate in the program but will not be required to commit to a minimum term. Instead, customers with existing eligible batteries may start off at the increased annual bill credit incentive for as long as they remain enrolled.

RMP's application explains that the enrollment incentive for customers with solar installed prior to the implementation of the Wattsmart Battery Program would be \$150 per kilowatt (kW) multiplied by the commitment term. The incentive for customers with solar installed after the implementation of the program would be \$100 per kilowatt. For example, if a customer installs a 5kW battery after the implementation of the program, they will receive a \$2,000 incentive (5kW x \$100 x 4 years).

The annual participation incentive is \$15 per kW during the commitment period and \$50 per kW after the commitment period. A customer with a 5kW battery could receive a \$75 incentive per year during the commitment period (5kW x \$15) and \$250 after the commitment period (5kW x \$50).

Based on Powder River's initial review of the application, the Wattsmart Battery Program incentives would help promote residential solar and battery installations in Wyoming. Powder



An example of a solar battery installation. Photo courtesy of Creative Energies.

River intervened in RMP's application before the PSC to gain more information on potential program opportunities and impacts on Powder River's members in RMP territory.



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PLANNED GIVING AND ESTATE PLANNING GIFTS

The Powder River "family" has been thinking a lot about the future lately, because, as the saying goes, "We aren't getting any younger." We want to make sure this organization remains viable for future generations in the same way it serves today's members. So we're inviting you, our extended family of members and donors, to consider including Powder River in your estate plans.

Your gift would create a living legacy allowing Powder River to continue our work far into the future and helping ensure Wyoming remains the place we know and love for our kids and grandkids.

As one long time Powder River member, Digger Moravek stated, "I want to raise Hell long after I'm gone." You too can do this through a bequest to Powder River.

The two easiest ways to include Powder River in your estate planning take little time (and no legal assistance).

· THROUGH YOUR RETIREMENT ACCOUNT (Your IRA, Roth-IRA, SEP-IRA, 401(k), or other such account): Name Powder River Basin Resource Council as a Primary beneficiary for a percentage. One percent, 10%, 25% or whatever you wish. You can do this through the account custodian, or often even on the custodian's website in a few minutes (Powder River's Tax ID is 74-2183158).

· THROUGH YOUR LIFE INSURANCE POLICY: Name Powder River Basin Resource Council as a primary beneficiary of any percentage of your life insurance policy. You can do this through your insurance agent or the insurance company, or often even on your insurance company's website in only a few minutes (Powder River's Tax ID is 74-2183158).

If you are preparing a formal will or living trust document, you can include Powder River Basin Resource Council as a primary beneficiary of a specific dollar amount or percentage of your estate. If you already have such an instrument, you can have it revised to include Powder River. This is probably best done through your attorney.

Finally, there are several more complex tax-advantaged ways to contribute to Powder River's future and receive continuing income and tax advantages during your lifetime. These include "charitable remainder trusts" and sale of appreciated and depreciated securities. Please consult your legal and financial advisors about how you can use such tools to support Wyoming's most effective grassroots member organization, and how you might benefit.

If you have any questions, please give Powder River a call at 307-672-5809.

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