

BIG PIVOTS

ENERGY *and* WATER *transitions in Colorado and beyond*

July 29, 2024 BigPivots.com Issue No. 90

Why United Power is so proud of its 8 big new batteries

by Allen Best

In November 2018 United Power began deploying a 4.5-megawatt-hour Tesla lithium-ion battery at the cooperative's office along I-25 between Firestone and Longmont.

It was the biggest battery in Colorado and it remained so until late 2022 when first Holy Cross Energy and then Xcel Energy came on line with their own batteries.

Now, United Power is at the front of a somewhat different line. It has eight new batteries located adjacent to electrical substations. They could, if necessary, deliver 13% of power needed by United's members for four hours. United has 112,000 members in its service area from the oil-and-gas fields of Weld County to homes in the foothills west of Arvada.

This type of distributed outlay of batteries is unequalled in the intermountain West with the possible exception of Arizona, according to Geri Kantor, who is director of distributed energy resource project development for [Ameresco](http://Ameresco.com), a global operator in the cleantech world that worked with United in creating the battery system.

United goes even further. Not only is it the largest distributed battery energy storage system in Colorado, says Trista Fugate, the

chief marketing officer at United, "and we're fairly certain across the U.S."

The batteries spread out at eight different sites can be drained as needed to meet peak demands, such as on hot summer afternoons, then replenished when cheap renewable energy is abundant.

Mark Gabriel, the chief executive of United Power, says this is a big piece of United's hyper-localization strategy.

United, and almost every other utility, will continue to depend upon electricity from distant sources, be they wind farms or even gas plants, in some cases. They can buy electricity to meet peak demands, but that comes at a higher price. And, importing power means paying the cost of using transmission lines. Plus, high-voltage transmission lines suffer losses of typically 4.2% for a 345-kV line across 100 miles.

The batteries can better be tied to local production of renewable generation. United has a high level of solar adoption.

With its original battery installed in 2018, United has gleaned insights that can apply to this greater deployment. "We gained a lot of experience in charging/discharging the batteries to understand how they work — the best time to charge, etc.," Gabriel explained in an e-mail message.

Declining costs of lithium-ion batteries coupled with federal tax policies have made batteries an easier choice for United and other utilities.

"They have gone down dramatically," said Gabriel of lithium-ion battery costs. "In effect, it makes them competitive with other

generation. This is especially valuable since there is a surplus of energy and a lack of capacity.” Batteries provide the capacity.

The Inflation Reduction Act of 2022 made the investment tax credit available for stand-alone battery storage. Before, the credit was only available when the batteries were paired directly with a renewable energy resource.

“That is a substantial change,” says Ameresco’s Kantor.

If still rare in the intermountain West, the distributed storage strategy being deployed by United Power is more common in California and the East, says Kantor. Regional transmission organizations, or RTOs, operate in those areas, delivering revenue opportunities for operators of storage.

United Power intends to join the Southwest Power Pool, an RTO, in April 2026. By state law, Colorado’s investor-owned utilities must become RTO members by 2030. In addition to SPP, the California Independent System Operator, or CAISO, is the second major candidate.

On May 1, United Power became independent of Tri-State Generation and Transmission, its former wholesale supplier. “I think it’s fair to say that distribution coops are watching what United Power is doing very closely because of their exit from Tri-State,” said Kantor.



Climate change looks like this: hotter here & there, but few records

It got hot in Colorado during July 12-16, but few records were broken.

True, it reached 100 degrees F in Colorado Springs for only the 12th time in record keeping. And Fort Collins hit 102 degrees, one shy of the all-time record.

So reports Russ Schumacher, the state climatologist, in his [blog at the Colorado Climate Center](#).

Dillon got to 84 degrees, “which is pretty warm for a location that has never recorded a 90-degree day,” Schumacher reported. In the Front Range urban corridor, particularly from Palmer Divide through Pueblo, most locations were more than 8 degrees above average for the four-day streak.

How does this heat wave rank against the records going back in some cases 150 years?

It was a top-10 four-day heat wave in the northern Front Range and Pikes Peak regions. More broadly across Colorado, it was the 14th hottest four-day heat wave since 1951.

“Overall, what we’ve seen in Colorado isn’t that the most-extreme heat waves are getting more extreme,” Schumacher writes.

“Record-smashing events are very rare even in a warming climate, and when air masses are hot enough aloft to have the potential for record-breaking heat, they often have just enough moisture to produce clouds and storms that reduce the surface temperature by a degree or two. Instead, what we’re seeing is a steady increase of heat: heat waves that would have been few and far between in the 20th century are now becoming commonplace.”

The record four-day heat for much of Colorado was in late June 2012. And at some individual long-term stations on Colorado’s eastern plains, heat waves in July 1934 and July 1936 still rank as hottest even now.

Pueblo upset about Black Hills rate hike. Where will this go?

by Allen Best

In 2020, Black Hills Energy beat back a determined effort by a dedicated group of locals called Pueblo's Energy Future. The proposal before voters in Pueblo was to push out Black Hills and instead form a municipal utility.

Proponents scraped up together a few thousand dollars for advertising before the vote in May, just a few months after covid had shut down Colorado and much of the world, was dwarfed by the \$1.5 million to \$2 million that they estimated was spent in advertising and other work focused on defeating the measure.

"We lost three to one," said Steve Andrews, a resident of nearby Florence and an active member of [Pueblo's Energy Future](#). "It was a slaughter."

Now comes a proposal by Black Hills Energy, to boost base rates 18% on top of what is already quite likely the most expensive electricity in Colorado. By all accounts, opposition is broad and deep. Might this trigger a new effort to municipalize?

Black Hills has 100,000 customers in Pueblo and also other municipalities in southern Colorado: Cañon City, Florence, and Rocky Ford plus Westcliffe, Cripple Creek and Penrose along with large amounts of unincorporated areas. The proposal, if approved by the Colorado Public Utilities Commission, would add \$20.14 to the monthly bill of the average residential customer using 600 kilowatt-hours, [according to the Pueblo Chieftain](#).

In 2020, three of the seven Pueblo City Council members opposed municipalization. Two council members participated in advertisements in support of Black Hills.

This time, the Pueblo City Council is united. Members on July 22 unanimously adopted a resolution in opposition to the rate hike. Pueblo Mayor Heather Graham and all three Pueblo County commissioners had earlier spoken out against the increases.

The city council resolution cited data from the [Colorado Association of Municipal Utilities](#) survey of residential rates for 700 kilowatt-hours: Black Hills Energy customers spent \$145, Xcel Energy customers about \$100, Colorado Springs \$98, and Fort Collins about \$84.

The [Pueblo Economic Development Corporation](#), which sat on the sidelines of the municipalization vote in 2022, has joined the local governments in seeking to

intervene in the rate increase proposal filed June 14 with the Colorado Public Utilities Commission.

That filing points out that Pueblo County is one of the poorest counties in the state, with a per-capita personal income of \$47,208, approximately 62.3% of the state average.

"Pueblo has survived the labor strife leading up to the Ludlow massacre of 1914, the great steel strike of 1919, the great flood of 1921 and the steel strike of 1959," the joint motion from the Pueblo organizations says. "The citizens and businesses of the Pueblo community cannot survive the outrageous rate increases sought by Black Hills in this proceeding."

The PUC docket has been filling with comments protesting the proposed rate increases. "We in this area are already paying some of the highest utility bills in the state, and this isn't Douglas County or some other nice and desirable area of Colorado; this is Pueblo County," wrote Danny Hales of

Pueblo voters in 2020 rejected municipalization in a landslide. Might the vote be different if held today?

Pueblo West, a higher-end subdivision west of Pueblo.

Black Hills, in its PUC filings and press releases, points out that it has had no rate increase in 8 years. (The filing was made 8 years ago; the rate increase went into effect 6 years ago).

The increase, if approved, would give Black Hills an additional annual revenue of \$36.7 million. Michael J. Harrington, who heads regulatory affairs for the South Dakota-based utility, said in a June 14 filing with the PUC that Black Hills has invested over \$370 million in strategic capital projects from 2016 through 2023 and plans to invest an additional \$98.5 million in 2024.

“They are, for the most part, non-revenue generating investments and are not reflected in current base rates,” Harrington said.

Black Hills believes it should get a 10.5% return on equity, a measure of profitability for shareholders closely related to return on investment.

An element of Black Hills’ argument for a rate increase involves net-metering, mostly customers who have rooftop or other types of solar. Under state law governing net-metering, they can pay less to Black Hills based on the electricity they contribute.

Black Hills had 605 residential net-metered customers in 2016. That had grown to 7,739 by the end of 2023. It asks to fully

recover its fixed cost of providing service to net-metered customers. That net-metering is responsible for 10% of the revenue that Black Hills says needs to recover.

A task force overseen by Center for the New Energy Economy has been meeting over the last year to see if some compromise can be reached that would give utilities the revenue that they believe they need. The law governing net-metering was adopted at a time when far fewer roofs had solar panels.

Municipal leaders in both Pueblo and Cañon City interviewed by Big Pivots strenuously objected to the rate hike.

“People are really unhappy here,” said Emily Tracy, a Cañon City Council member. “We already have the most expensive electricity in Colorado, and they want an 18% hike on top of that.”

She charges that Black Hills has discouraged economic development in its service territory with its high rates. Pueblo and other nearby towns already have a high poverty rate and have had difficulty attracting businesses, especially those who use large volumes of electricity.

“If you want to strangle this part of the state, that’s what you do, just keep increasing the cost of electricity,” she said.

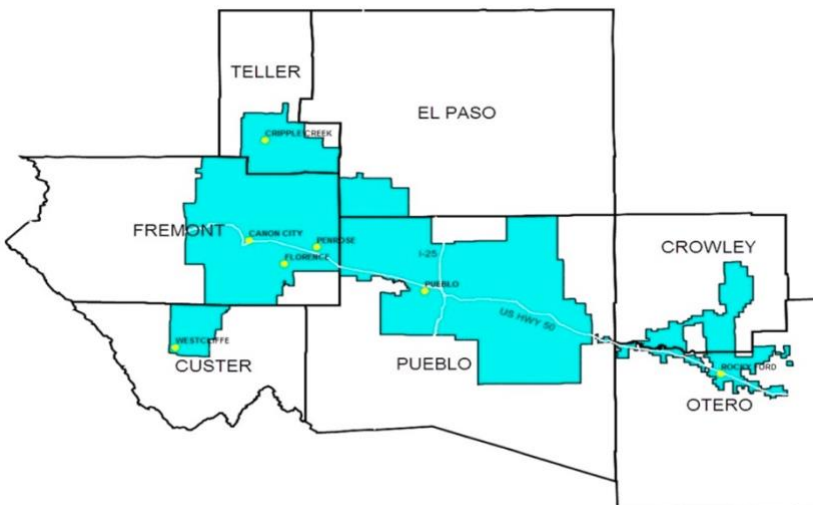
The city government pays Black Hills \$500,000 a year for electricity.

In Pueblo, Mark Aliff, the president of the city council, said Black Hills could take a drastic cut in revenue and still be making plenty of money.

“They made \$700 million this year, and so if they only make \$600 million, is that a bad thing?” he said. “We’re at the end of our rope. We can’t take it anymore.”

He told Big Pivots that in a meeting with Pueblo County commissioners, a

Figure MJH-1: Black Hills Colorado Electric Service Territory Map



Black Hills representative freely acknowledged that the 18% rate hike is only the beginning for negotiations for the hike the company expects to get. It should actually cut rates, Aliff said, not increase them.

Aliff would like to see legislation in Colorado that would allow community choice aggregation. Already in place in California, this would give communities currently served by Colorado's two monopoly electrical utilities, Xcel Energy and Black Hills Energy, the authority to secure energy from independent suppliers.



Mark Aliff

A 2021 state law required a study. An expert told Colorado PUC commissioners in 2022 that the concept has been effective at times in delivering lower cost electricity, but not always.

See: [Good \(mostly\) in California. How about Colorado?](#) Big Pivots, June 23, 2022

A report later issued by the state described an ambivalence about whether the concept deserves a push given how well Colorado utilities were decarbonizing.

In this case, the issue is cost, not decarbonization.

"Simple legislation like that would free up our ability to buy energy on the free market and stop this monopoly," said Aliff. "It's incomprehensible that in 2024 we are having this conversation."

In this, Pueblo's legislative representatives in Denver have fallen short, he charges. That includes Leroy Garcia, the former Senate president.

Daneya Esgar, a county commissioner, was a state legislator in 2020. Her time included a stint at House Majority Leader.

"She could have easily ensured that community choice got into committee, but did nothing," he said.

Esgar did not respond to a request for an interview.

Cañon City had a franchise agreement with Black Hills that expired in 2017. It has continued to get power from Black Hills without an agreement. In 2020, after Pueblo voters rejected the proposal to refuse renewal of their franchise agreement with Black Hills, a group in Cañon City quietly organized a vote to formally reject renewing the franchise. They had only \$5,000 and were outspent 10 to 1, she said, but still won by a two-to-one margin.

Why hasn't Cañon City tried to create its own municipal utility? There's a reason Colorado has had no new municipal utilities since 1970, Tracy said: It's costly and time consuming. "We haven't figured out what direction we want to go in," she said.

Pueblo's franchise agreement expires in 2030 but provides an opportunity for an off-ramp in 2025. Might this rate increase produce a new effort to municipalize?

"The people who participated in that (2020) effort haven't lost interest, but they have moved it to the back burner," says Andrews of Pueblo's Energy Future.

"This huge rate increase has the community up in arms, and the back burner people are ramping up the gas. They're coming back into the game. I don't know what will happen. I don't know if there will be an actual effort to municipalize. I won't predict it, but I wouldn't be surprised."

One argument against municipalization in 2020 was the cost. The value of the assets Black Hills owns are calculated at possibly \$1 billion.

Might the vote this time turn out differently.

"That's the billion dollar question," Aliff replied. "I have no idea. I think the community at this point is very, very fed up with Black Hills Energy. But are they willing to invest a billion dollars to get rid of them? I don't know."



U.S. Senator John Hickenlooper at EPA Region 8 headquarters in Denver

this day. And Colorado had a big hand in passing this.”

Hickenlooper produced smiles in his time at the lectern: “One of the great things in life is when you’re lucky enough to have a mentor who’s 10 years younger than you are, teaches you humility and how the world works. And after I follow him, he’s done

all the hard work. He’s thanked everyone.”

But Hickenlooper was just getting started. After crediting Bennet – once his chief of staff when he was mayor of Denver – with being “one of a handful of people that have been talking about this for year after year after year,” he said this:

“Part of our challenge is to keep this fresh and have a sense of urgency, because there are still a lot of folks out there – some of them have very large public relations budgets – they’re saying, ‘Oh, climate change isn’t that big a deal. Not sure it’s that high a level that we should rush into spending this money.’”

“This money, it’s a significant amount of money coming into Colorado, (and) it’s a drop in the bucket, right? This is a placeholder because what we’re doing now is creating the framework by which we are first in this country, and then the industries that we train and build are then going to be exported to train and build the systems in other countries around the world to do with this great transition.

“And it’s going to be a great transition 50 years from now. We’re hoping to look back on this period as that time when people finally stood up and said, ‘All right, we’re going to,

‘It is going to be a great transition 50 years from now’

by **Allen Best**

They brought home the bacon, \$328.7 million for climate programs in Colorado, and Colorado’s U.S. senators were at the Environmental Protection Agency’s Region 8 headquarters near Union Station on Monday morning to explain why it mattered — and how they had made it possible.

“The cost of climate change is all around us,” said Sen. Michael Bennet before enumerating everything from wildfires to mudslides to the most severe drought in the Colorado River in the last 1200 years.

“That’s why we wrote the Inflation Reduction Act, the most significant climate legislation that has been passed by any government, by any country in the world to

Inflation Reduction Act programs yield \$328.7 for buildings, landfills – and methane-spewing coal mines in Colorado

instead of being ruled by technology, we're going to use technology, and we're going to find different ways of getting energy, and we're going to recognize that we've got people all around the globe that right now don't have any access to energy. We've got to make sure that they get energy, but we do not continue to pollute our air and water, the environment we live in when we access that energy, and we know that we can do that."

"We don't have all the answers but we must have a level of optimism and urgency to get this moving at a faster level. And that's why this grant is such a big deal. Nobody thinks that the Inflation Reduction Act was a perfect bill, but you look at these two projects — going into coal mines and solid wastes and places where we know there's a tremendous amount of methane coming into the atmosphere. Methane is more than 80 times harmful in terms of climate change than carbon dioxide. And yet, for a long time, we never did anything about it," said Hickenlooper.

"Colorado was the first state, actually the first government entity of any type to regulate methane, 10 years ago. We should be very proud about that, what's now accepted not just in this country but increasingly around the world was created by collaborative efforts. It's a little bit of punching and a little bit of pushing, but it happened right here with that distinctly Western approach that we take here."

Colorado's recipients had been notified two days in advance of the event that their projects will get money. One speaker, Jeff Baker, the board chair of the Denver Regional Council of Governments, joked that it was kind of like the dog who caught the car. "What do you now?" But he quickly assured listeners that

DRCOG (widely pronounced Dr. COG) did indeed have well-laid plans — although in some cases the specifics have to be worked out.

Colorado Energy Office, \$129 million

The Colorado Energy Office will get \$129 million for work in five sectors.

- Methane: Deploy advanced methane monitoring technology to produce data that will inform regulatory policy. Reduce methane emissions from landfills and coal mines through existing and new monitoring and measurement programs.

- Fund energy efficiency and electrification upgrades in large commercial buildings that are otherwise hard to decarbonize.

- Distribute subawards and support to local governments to implement projects that reduce emission from buildings, transportation, electric power, waste and materials management, plus land use. The money is to be administered through a new program, the Local Government Climate Action Accelerator.

"We're so excited — and shocked in the best way quite honestly — to accept this award that will help us meet our greenhouse gas reduction goals, make our air cleaner, and



Electricity was produced for several years at the Elk Creek Mine near Paonia, but too little methane remains to be effective.

save Coloradans money,” said Dominique Gomez, the deputy administrator for the Colorado Energy Office.

“Local governments have a major role in reducing emissions in several key sectors of the economy, and the urgent need to increase their capacity to do that work is evident,” said Gomez. “The state can help, but the local governments really need to take the action, and our agencies will help us to build on local successful programs that are helping reduce emissions.

CEO will administer the program partly in conjunction with the state’s Department of Natural Resources and the Colorado Department of Public Health and Environment.

Michael Ogletree, director of the state’s Air Pollution Control Division, said Colorado had estimated the projects would result in an annual reduction of more than 10.7 million tons of methane.

“We’ll use advanced technology, including satellites and aircraft to find the largest methane emitters in the state. Because we need the best possible data to inform a rigorously scientific approach to methane emissions reductions, we can achieve significant near-term methane emissions reductions by collecting this data and rapidly sharing it with operators who are in the position to immediately address their emissions. We intend to create a rigorous and predictable detection and response protocol so that we have clearly established methods for sharing this data with operators. This grant will also allow us to embark on an ambitious, exciting program to study methane emissions from coal mines across the state and then figure out the best way to capture those emissions. This study will focus on the science of coal mines emissions and also the legislative and regulatory changes needed to draft a feasible program for emissions capture.”

As for the money for methane capture from coal mines, this correspondent asked about coal mine capture and whether

anything could be said about the methane at Coal Basin near Redstone.

“We haven’t planned out exactly which areas where we will do capture projects yet,” said Gomez. That will be decided soon in consultation with the Department of Natural Resources and CDPH&E.

DRCOG and buildings, \$200 million

DR. COG, as the metro-area agency is widely known, will get just a few hundred thousand dollars shy of \$200 million for its Zero-Emission Building Initiative. DR. COG includes nine metro-area counties and 49 municipalities, from Silver Plume to Deer Trail, and from Castle Rock to Firestone. DRCOG says it has more than 50% of Colorado’s residents within its member jurisdictions.

The goal will be to electrify and weatherproof more than 60,000 buildings and provide education for up to 3,800 new workers and upskill 1,000 existing workers. There’s a large carve-out for lower-income residences.



DRCOG’s Baker said the EPA grant “will supercharge our efforts to meet this challenge head-on by electrifying and decarbonizing buildings.” He noted that the member jurisdictions had also committed matching funds of more than \$73 million, “so we’ve got skin in the game.”

Robert Spotts, the mobility analytics program manager for DRCOG, described some particulars of how the \$200 million will be used. “This is not sexy,” he said, as he described energy efficiency and building electrification. But the work that will occur will almost certainly yield savings over and above the investment across time.

Reaction to Biden decision

After questions from the press, including one from this correspondent about the money for coal mine methane, a reporter from KDVR asked about reactions to the announcement by President Biden the previous day that he was not seeking re-election.

Bennet – who earlier on after Biden’s bumbling debate performance was the first U.S. senator to suggest to Biden that he consider stepping aside – credited Biden with making a difficult decision, but one that Biden believed was in the interests of the American people. He credited Vice President Kamala

Harris, now the presumptive Democratic nominee, with being “well prepared to prosecute this campaign in the next four months and to beat Donald Trump.”

Bennet added: “We need her to win for the reasons that we’re here today. Because you saw at their convention what their version of energy policy is, which is drill-baby-drill. That got the biggest applause of anything that Donald Trump said when he was up there. And that is not where Colorado wants to be. That’s not where the United States wants to be. We’re not interested in giving handouts to the richest, biggest oil companies ever known to mankind. We’re not interested in more trickle-down economics that cut taxes for the wealthiest people in the country. When we’ve got the worst income equality that we’ve had since the 1920s and think it’s somehow going to just trickle down to everybody else.”

“I believe Donald Trump is a symptom of the economic turmoil that the American people have faced because of 40 years of trickle-down economics. That’s what I think..... I think she can win.”

Hickenlooper followed and also credited Biden with making a difficult decision – a sacrifice, really. “That was his life’s goal, and he walked back from it.”

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Two big DOE grants for transmission in southern Colorado

by Allen Best

Lori Laske was ready to talk on Saturday morning when called about the \$1.7 million grant awarded to Alamosa County two days prior by the U.S. Department of Energy.

“I have been doing the happy dance for two days,” she said.

Laske is an Alamosa County commissioner. The only doorway for electricity in and out of that and other counties in Colorado’s San Luis Valley lies to the north, across Poncha Pass. Both Xcel Energy and Tri-State Generation and Transmission Association maintain lines across the pass.

Not only does that leave the valley vulnerable to outages, as occurred during a snowstorm in May, it may well limit the export of solar energy. With its high elevation

and, even by Colorado standards, uncommonly sunny skies, the potential for solar development is huge.

Side by side with this potential is the deteriorating water situation. To remain in compliance with the interstate compact governing the Rio Grande River, the San Luis Valley needs to reduce water use. Colorado legislators in 2023 appropriated \$30 million to a water district to help secure commitments from farmers to take land out of production. Solar might help fill in some of the economic gaps for Alamosa and other counties in the valley.

Xcel Energy and Tri-State cooperated in an effort to erect a new transmission line eastward across La Veta Pass. A wealthy landowner, Louis Bacon, who owns crucial land on the pass, rejected the idea in 2011 and so the idea slumbered.

A much larger federal grant, \$9.5 million, was awarded to the Colorado Department of Local Affairs and the Lamar-based [Southeast Colorado Enterprise Development Inc.](#), a six-county effort. This project, according to the federal government statement, is to secure

benefits for communities impacted by development of the [Three Corners Connector](#).

[Grid United](#), the company behind the Three Corners Connector, proposes to build a 300-mile transmission line from Pueblo across southeast Colorado, picking up renewable generation along the way to send to Guymon, Okla. It has in mind a 525-kilovolt high-voltage direct current transmission line. The power could ultimately end up not only in Oklahoma but Arkansas. Both states lie in the Eastern Interconnection Grid, while Colorado is in the Western Interconnection Grid. The portals between the two are few and slender.

Colorado has just one, at May Valley, north of Lamar.

Big Pivots will provide more information about this grant and also the Three Corners Connector when it becomes available.

Both grants were made possible by the 2022 Inflation Reduction Act. Alamosa's grant comes from the program for siting and permitting. The grant for southeastern Colorado is for economic development. Colorado was the only state to get funding for projects on both sides of the ledger.

The grant to Alamosa County will allow it to conduct an analysis and extensive community engagement around three potential transmission corridors:

One possibility is a line going north, but instead of across Poncha Pass and down to the Salida-Buena Vista area, this route would cross Cochetopa Pass and into the Gunnison Basin, eventually tying into existing transmission lines in the Montrose area.

A second possibility that will be examined is a power line heading south toward Ojo Caliente and Taos in New Mexico. Alamosa County is working with New Mexico energy authorities in this.

A third candidate is another attempt to cross La Veta Pass and down to Walsenburg, eventually linking to the Colorado Power Pathway, Xcel Energy's big loop through the eastern part of the state.

Given Bacon's veto of transmission crossing his property at La Veta Pass, might this study look at undergrounding the transmission line? Now, 13 years after Bacon's rejection, the environment is a little different, said Laske. "I don't know what the conversations would be. That's why the emphasis is on stakeholder engagement."

Other possible routes might also be

identified, she said.

The county will not be getting the money until October, later than it had hoped. It had hoped for 18 months for the evaluation and engagement, wrapping up in

December 2025. It will seek an extension of a month or two. It has selected a contractor but made no formal commitment, awaiting to get cash in hand.

Laske said the work that Alamosa County plans coordinates well with the principles for engagement being drawn up by the Colorado Energy Transmission Authority, or CETA.

In its application, Alamosa said it wanted to look to the future, examining the prospects of a 345-kV line. That may be more than what is needed now, but maybe not in the future as electric vehicles begin to proliferate and more housing is transformed from natural gas and propane to electricity.

"This is our once in a lifetime opportunity," said Laske. "It has never happened before and it will never happen again. I don't even think most people know where Alamosa, Colorado, is."



A new natural gas plant? Platte River says its needed, but former chair says no

by Allen Best

Looking into the future, Platte River Power Authority sees need for a natural gas plant to buttress the robust investment in renewables that it plans as it prepares to leave coal behind.

It has plenty of company among Colorado utilities as they similarly exit coal. Xcel Energy, Tri-State Generation and Transmission, and Colorado Springs Utilities have already or plan to invest in new natural gas plants.

For that matter, a study commissioned by the Colorado Energy Office in 2023 concluded that the most effective way for Colorado to achieve at least 94% renewables while maintaining reliability and without adding burdensome costs will be to embrace natural gas to meet occasional peak demands.

Wade Troxell, a former mayor of Fort Collins and also former chair of the board of directors for Platte River, thinks it's a choice that looks to the past, not the future, of energy.

"I don't agree with the direction they are taking," he told Big Pivots on Thursday after Platte River directors earlier in the day had approved an integrated resource plan that includes the gas plant. [See news release here.](#)

Troxell has long maintained that utilities need to move past large, centralized generation and meet electrical consumers with new innovative programs that maximize very local energy sources and choices.

To be clear, Platte River plans a giant investment in new renewable production, 760 megawatts altogether, as it prepares for the day when it loses power from its lone coal plant, Rawhide, and its share of a coal-burning unit at Craig.

Platte River sees some of the lost power coming from virtual power plants within its owner communities of Fort Collins, Longmont, Loveland, and Estes Park. The strategy also requires both short- and long-term energy storage when commercially viable.

The integrated resource plan approved on Thursday morning by directors representing the four member municipalities also calls for the "lowest carbon-emitting combustion turbine technology that is hydrogen capable."

In other words, a gas plant.

Xcel Energy famously announced in November 2018 that it had adopted a goal of getting out of coal and dramatically reducing emissions by 2030.

A month later, directors of Platte River Power adopted an even more ambitious goal of 100% renewables by 2030, although that plan was premised on eight or nine conditions.

Troxell was chair of the board at that time. He had grown up in Fort Collins and was a lineman for the football team of the Colorado State University Rams. He became a professor of mechanical engineering at his alma matter.

In his spare time, Troxell had been engaged in work for some years of pushing along the idea of distributed energy and also load management at the very local level.

Jason Frisbie, the chief executive of Platte River, had started work in the utility sector not in an office but at Rawhide, the coal plant north of Fort Collins, and worked his way to become chief executive during this time of energy transition.

"This plan gets us the majority of the way there, and we will continue our pursuit of a non-carbon energy future."

**Jason Frisbie
Platte River Power**

“This plan gets us the majority of the way there, and we will continue our pursuit of a non-carbon energy future,” he said in a press release.

“While some community members question the need for new gas turbines, every portfolio we’ve modeled that meets the requirements of our three foundational pillars adds renewable resource and aeroderivative units.”

Troxell sees a bottoms-up approach that is opposite of the reigning utility paradigm of the 20th century, which was entirely top down. He sees the gas plant, even if used only part time, as a continuation of that approach. He estimates the cost at \$500 million. But he also sees big solar plants and battery arrays as being similar.

The action, he says, needs to be at below the level of an electrical substation. The four city utilities should be the center of action.

Platte River has something similar in mind with its virtual power plants among its four member cities. But Platte River needs to think bottom up first, says Troxell.

“It goes to the consultants you pick and the requirements you give to the consultants how that comes back and is presented to the board,” he said.

What is needed, he added is a “whole different model and new agreements.”



Sand Creek Massacre rules for transmission open for public comment at PUC

The Colorado Power Pathway was planned to come within a few miles of the site of the Sand Creek Massacre that took the lives of Cheyenne but also Arapahoe and others in 1864. The Northern Cheyenne tribe in Montana has objected to the visual intrusion.

Rules were drafted to recognize the role of local governments in siting decisions and to acknowledge that there are significant and complex federal, state, and local requirements for protecting cultural resources.

The proposed rules would require that utilities establish processes in their electric resource plans that ensure that bidders provide relevant information about cultural resource surveys and consultation with tribal nations. This, according to a release from the Colorado Public Utilities Commission, would help ensure the PUC has a robust understanding of potential impacts to the massacre site and opportunities to mitigate them when it makes decisions.

You can see the rules by going to the PUC website. It’s proceeding 24R-0306E.

There will be an information-only meeting at the PUC on Thursday, August 1, from noon to 1 p.m. Comments will be taken on Tuesday, Aug. 27, from 11 a.m. to 5 p.m.

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BIG PIVOTS



Will Vail become a world showcase for geothermal?

by Allen Best

On Thanksgiving weekend of 1994, the first traffic roundabout in Colorado — and one of the first in the United States — debuted in Vail.

Doubters had warned of mayhem. Instead, it was surprisingly effective at ending the gridlock that at times had paralyzed the resort community's primary intersection, which had been governed by a four-way stop.

Since then, traffic roundabouts have become commonplace across the nation's landscape.

Might Vail, an international destination, the flags of 45 nations in addition to that of the United States, fluttering along one of its

Gov. Jared Polis listens as Kristen Bertuglia, who heads Vail's sustainability department, talks. She is flanked by Vail's hat-wearing town manager, Russell Forrest, and suit-wearing Cameron Millard, who is spearheading the geothermal project.

frontage roads, also become a showcase for geothermal technology?

On a morning of still-smoky skies and heat blasting into the high '90s across much of Colorado, Gov. Jared Polis spent an hour in Vail to talk up geothermal and hear local reports.

Polis made geothermal his signature effort during his year as the chair of the Western Governors' Association. He called it Heat Beneath Our Feet. That heat can be used in various ways. The more common way, already broadly deployed across Colorado, most famously at Colorado Mesa University, uses shallow coils about 10 feet underground

to tap year-round temperatures to heat and cool about 800,000 square feet in buildings.

In California and to a lesser extent several other Western states, underground heat – commonly from deep wells – can be used to generate electricity. Polis contends that this enhanced geothermal technology – if currently cost prohibitive in Colorado – will mature sufficiently to help Colorado achieve its goals of 100% renewable electricity by 2040. And emission-free electricity will be key to achieving economy wide emissions-free energy.

Holy Cross Energy, the electrical cooperative that serves Vail, has been moving forward with goals of its own. It aims to be 100% by 2030 – or at least close.

In May, Holy Cross hit 80% renewable generation for its electricity, and the cooperative now believes it can attain 90% sometime in 2025 as new transmission capacity becomes available from a major new wind farm in eastern Colorado called Bronco II.

Bryan Hannegan, the chief executive of Holy Cross, has long said that the last 10% will be far more difficult. In Vail, he explained the synergy he sees between geothermal and his cooperative's 100% goal.

"When we have too much wind or too much solar to serve the electricity load, we can partner with projects like this to provide extra hot or chilled water to help the thermal energy system meet its needs," he explained.

"And that allows a very effective way for us to store that renewable energy during the midday that we would otherwise curtail at cost. We can store that energy to be used by the thermal system in the afternoon and reduce strain on the electric grid so we don't have to build that grid bigger.

"The synergy between these two systems is a large part of what we think will get us to 100%. Really, it turns out to be a win-win for both consumers and the environment because we increase the efficiency on both the electric and the thermal side. Working



Holy Cross Energy CEO Bryan Hannegan at the electric cooperative's annual meeting in 2024.

together with our existing electric grid and these new emerging thermal grids, we can get the best of both worlds, clean electricity and clean heat."

The specific mechanics of what Hannegan has in mind is probably best left for another story. What needs mention is exactly what Vail has in mind.

At some point, the town began deploying natural gas combustion to warm water for piping laid below the town's famously pedestrian-friendly corridors to melt the snow.

The test area for this geothermal experiment that could lead to a much broader geothermal outlay is between Dobson Ice Arena and the Vail Public Library.

One 500-foot test well has already been drilled, and more will be drilled now that the basic geology has been ascertained. A novel twist in the Vail project is the goal of milking the heat from treated wastewater at a sewage plant about six blocks. The heat can then be transferred to pedestrian areas that need to be shed of snow so nobody falls and breaks a leg, as one former town manager did in the 1990s. The de-heated — if that is a

word — water can then comply with standards for releases into Gore Creek.

Heat from the adjacent buildings can also be used at this particular location.

Vail is still very early in this project. It has a \$500,000 engineering study to get completed, and a \$250,000 grant awarded by the state will help. The state in the same grant cycle awarded altogether \$7.7 million to 35 different projects across Colorado.

Salient about Vail's project is not only its novelties, but also the apparent resolve of the town to tidy up its carbon budget.

Aspen, Carbondale, Steamboat Springs and other Colorado jurisdictions are similarly intent on seeing how geothermal can be used to begin replacing natural gas combustion.

Total costs, however, have not yet been calculated for these projects.

With Vail's green-and-white electric buses quietly gliding by in the background, Polis talked about the role of geothermal that he sees in displacing natural gas.

"We can replace the need for natural gas with reliable geothermal 365 days a year, 24 hours a day — (and with) next to zero ongoing cost," he said.

Polis cited the example of the February 2022 storm, called Storm Uri by some, that paralyzed Texas and led to a run on natural gas.

"Xcel Energy, for instance, had to pass along close to \$800 million to ratepayers because of the price gouging that occurred during a several-day period during the Texas storms. We want to be independent of that," he said.

"I mean natural gas can go up because of wars in Europe. It can go up because of external economic factors. It can go up because of speculation. (Geothermal) removes the need for having to worry about that and provides next to zero ongoing cost — a little maintenance here and there.

Unlimited heating for snowmelts for decades. These geothermal systems can last a century, and many of them do," he said, citing a geothermal system in downtown Boise.

Polis said he hopes that some signs will be used to inform Vail's visitors of the geothermal project when it's completed. Vail can use geothermal to melt snow but also "educate the millions of people who visit the area about what geothermal means globally."

Colorado has several million in additional grants that will be announced later this year. Not quite half of the \$7.7 million in awards announced in May will be devoted to projects which aim to generate electricity.

Many in the energy sector are skeptical of the great potential that Polis sees for electrical generation. The heat in Colorado lies far deeper than in Nevada and California. Polis, though, said he hopes that Colorado can gain "at least one, hopefully two or three geothermal electricity producers in Colorado that can make a major contribution to us achieving 100% renewable energy for our grid."

Afterward, in an interview with Big Pivots, Polis said that in addition to projects that got state grants, several others are likely "being pursued that didn't need or aren't yet ready for our funding."

Asked if additional legislation would be needed, he said not necessarily. Instead, he pointed to coming rulemaking at the Energy and Carbon Management Commission on geothermal primacy with regard to well regulation.

"We want to make it easy to site and permit geothermal, and taking a lot of the learning from the oil-and-gas sector and applying it to the geothermal sector, and we'll be one of the first states to really have a expedited approval system for geothermal."

"We'll be one of the first states to really have a expedited approval system for geothermal."

**Jared Polis
Colorado governor**

Colorado gleanings

Geothermal driller for State Senate

Sam Bandimere knocked on the door of the world headquarters of Big Pivots on a recent Friday and quickly promised lower taxes of many kinds if he is elected to the Colorado State Senate from the District 19 seat being vacated by term-limited Rachel Zenzinger.

Bandimere's campaign material also talked about limiting government while safeguarding individual rights and securing the border. A pair of checkered flags suggested a connection to the race track located along a Dakota hogback west of Denver.

But here is where he diverted from a normal MAGA Republican candidate: His material said he had a net-zero home and advocates using ground-source heat pumps.

Pressed for explanation, he explained that he had owned a geothermal drilling service since 2001. Eyeing the smallish front yard of Big Pivots, he said it was big enough to drill a geothermal well, and the payback on it could be achieved in seven years.

Nuclear and Rio Blanco County

"Following the hospital discussion, the board (Rio Blanco County commissioners) addressed nuclear energy and how Northwest Colorado can promote it. A local survey and a nationwide survey revealed that 65% of people in Northwest Colorado favor nuclear energy and are more informed about it compared to the national average."

From the [Rio Blanco Herald Times](#)

Greener and faster

"We intend to build high-quality homes that are less costly, greener, and faster to construction at our new Modular Housing Production and Education Center in Rifle. With this facility, our yearly construction

volume of net-zero-ready homes will multiply by a factor of more than five....

... Habitat RRV is wrapping up construction of its Wapiti Commons neighborhood of 20 net-zero homes in Rifle, preparing for groundbreaking at The Confluence in Glenwood Springs this fall; planning for a new neighborhood in a partnership with the Town of Basalt; and pursuing our first apartment building conversion to condos in Glenwood Springs."

Gail Schwartz
President

Roaring Fork Valley Habitat for Humanity
(And former state senator).
(Glenwood Springs) [Post Independent](#)

A second extension for Xcel

The Colorado Public Utilities Commissioners on July 17 issued a decision granting Public Service Co. of Colorado, a.k.a. Xcel Energy, an extension to Oct. 15 to file its Pueblo Just Transition solicitation. This is the second extension. The original due date was June 1, a date that had been set more than two years before.

Why the delay? To better incorporate the results of its 2021 electric resource plan and clean energy plan proceedings, which lasted longer than expected. Plus, the company cited "multiple geopolitical dynamics," including the possibility of new duties on solar cells imported from Cambodia, Malaysia, Thailand, and Vietnam, as well as increased tariffs already ordered by President Joe Biden on certain Chinese imports. The company also reported supply chain challenges with the interconnection of generation resources.

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