

Dec. 22, 2020 Issue No. 25
<https://mountaintownnews.net>

Fast charging for EVs taking shape on Colorado's major highways

by Allen Best

MONTROSE, Colo. – Montrose County had 69 electric vehicles registered as of Dec. 1. Moffat County, in the state's northwest corner, had just 4.

So what's up with the high-speed charging infrastructure installed in both counties?

Tourism. Officials in both jurisdictions see fast-charging infrastructure for EVs being crucial to maintaining or even growing tourism.

"We are looking at every opportunity to develop our economy, and this is one way to do that," said Roy Tipton, director of development services in Moffat County, in a celebratory meeting last week of the Colorado Electric Vehicle Coalition.

"It we don't have the infrastructure in place now, it will be like the place that didn't have WiFi."

Jim Heneghan
Delta-Montrose Electric

Moffat County's existing economy almost entirely depends on coal, either extraction or combustion. That will almost entirely go away by 2030, conceivably earlier. From Craig, the county seat, to Dinosaur, the small town at the entrance to the eponymously named national monument, it's 86 miles.

The new charging station at Dinosaur is among 7 high-speed charging stations now available for EV drivers along Colorado highways resulting from a state partnership with ChargePoint, a private company. Altogether, 34 will be available sometime in 2021.

Colorado wants to accelerate the electrification of transportation, now the No.

1 source of greenhouse gases in Colorado. Gov. Jared Polis, [in his first executive order](#) in January 2019, called for 940,000 EVs on to be on the road by 2030. That compares to not-quite 32,000 now registered in

Colorado, according to a snapshot on the [Colorado Energy Office website](#).

The marketplace is fast moving in that direction anyway. Consider that Tesla has become the best capitalized car



Moffat County is now on the map of EV drivers wanting to visit Dinosaur National Monument.
Photo/Allen Best

manufacturer in the United States, with other manufacturers trying to catch up. Consider also the rapid expansion of vehicles available to purchasers: [90 in the 2021 models](#), with many more expected.

Polis appeared in a Zoomed meeting of the EV Coalition. “Electric vehicles are a key part of achieving our climate goals in Colorado,” he said, echoing his comments in his executive order of early 2019.

“Electrifying our cars, buses, trucks, and other vehicles will have enormous benefits in cleaner air, improved public health, and less greenhouse gas pollution,” he said in that executive order.

Colorado has an agreement with ChargePoint to build 34 charging stations along Colorado’s major transportation corridors, including the interstate highways but also the secondary routes. The goal is to have a fast-charging station every 90 miles or so. Colorado is also planning a total of 351 chargers across the state, but not all of them would be high speed.

For instance, that new charging station at Dinosaur is along Highway 40, which goes through metropolitan Denver, where it’s known as Colfax Avenue, before continuing over Berthoud Pass to Winter Park, Kremmling, Steamboat Springs, and Craig.

“When we were first approached by ChargePoint, we were all skeptical about coming into this space,” said Tipton, the Moffat County official. Due diligence, he said, overcame that skepticism. “Once those stations are installed, it will put Dinosaur on the map.”

Montrose now has two high-speed chargers, both located adjacent to city offices, just around the corner from the city’s major crossroads of Highways 50 and 505: a Tesla charger with its proprietary technology and the second installed by ChargePoint.

“Tourism is a major component, and having this ChargePoint facility located in Montrose to accommodate the EV-owning tourists is a big plus for us,” said Jim

Heneghan, chief power supply officer for Delta-Montrose Electric Association.

In a later conversation, Heneghan laid out how he sees EV adoption in his service territory of west-central Colorado.

It's a rural area, with agriculture still a strong component but with fast-growing suburbs at Montrose set against the backdrop of the San Juan Mountains. Locals will be slower adopters, at least until EVs reach price parity with internal combustion engines. The immediate reason to have EV fast-charging stations is to maintain the valley's position as a tourism destination.

"I think it's being able to maintain and accommodate the tourist numbers that we have," said Heneghan. "I wouldn't want to claim that I think EV fast-charging will increase tourist numbers. It's to avoid losing them."

He compares it to WiFi, once exotic—then quickly imperative.

"If we don't have the infrastructure in place now, it will be like the place that didn't have WiFi. We don't want to be that place."

Delta-Montrose is paying \$30,000 to \$35,000, or roughly 20% of the total cost of installation, as per the terms of the grant with the state. The charger has a 150-kilowatt capacity, capable of filling many cars to about 80% capacity in about 20 minutes. It's located in the town's old downtown and more touristy area.

How fast growth in EVs will occur in west-central Colorado is a question that can't be predicted with great certainty. It's Heneghan's job to make more than a wild guess, though. Every year he updates the 10-year projected change in electrical demand for Delta-Montrose, dictating how much electricity his utility must procure.

"We don't have solid projections from the industry, from the state, or anyone that says that this year or that particular year the demand for electricity from EVs will reach a megawatt level," he says.

100% electric pledges

The following local jurisdictions have made various commitments to 100% electric transportation

- 1) Boulder County
- 2) Denver
- 3) City of Boulder
- 4) Summit County
- 5) Golden
- 6) Fort Collins.

Still, gleaning what he has from various readings, Heneghan has a suspicion that within the next three years there will be a discernible uptick in demand for electricity to fuel cars and trucks, not just at the fast-chargers in Montrose but more broadly in the Paonia-Delta-Montrose area.

Heneghan agreed with the formula used by ChargePoint, which assumes less use of the chargers in rural areas than in urban areas. But at what point might that change?

Crucial for adoption will be expansion of offerings of pickup trucks and SUVs. They've started to arrive. Arriving in bulk will matter entirely to members of Delta-Montrose.

At the coalition meeting on Dec. 18, Rory Moore, director of strategic program development for ChargePoint, said his company had worked with 22 utilities in Colorado.

This program is also seeing installations at Estes Park, Fairplay, Salida, and Pagosa Springs.

Kum & Go, a family owned chain of convenience stores, plans fast chargers in Rifle, Wellington, and Granby, said Jacob Maass, commercial fuel manager. It already has a fast-charging station at its store in Steamboat Springs.

Local governments are driving demand for electric vehicles. Matt Frommer, from the Southwest Energy Efficiency Project, described Boulder County's plan requiring all new sedans be EVs in 2020 and, beginning in 2025, all SUVs and then, by 2030, all pickups also be EVs.

A big PUC decision about how Xcel can put on the EV juice

by Allen Best

Big will be the operative word on Wednesday afternoon as the Colorado Public Utilities Commission takes up proposals for how Xcel Energy can accommodate and accelerate transportation electrification in Colorado.

Already the largest electrical utility in Colorado, responsible for 52.5% of electrical sales in 2018, Xcel will almost certainly sell more electricity as a result of the plans being reviewed by the PUC. It will become a transportation company in the sense that Shell, Conoco, and others in the fossil fuel sector are now. Transportation will become a core part of its business.

The second outcome will be a foundation for the accelerated electrification of transportation in Colorado, now the No. 1 source of greenhouse gas emissions in the state.

This decarbonization of transportation is an essential component of the state's decarbonization roadmap.

PUC commissioners will be making many decisions, including whether to approve a \$102 million outlay by Xcel or an alternative proposal for \$130 million. In both cases, Xcel's expenses would be recouped by higher rates to consumers—although the argument is also made that eventually consumers will benefit from having a more robust electrical system.

It's complicated. We'll come back to that.

This planning was triggered by a 2019 law. Primary architects were State Sen. Chris Hansen, a Democrat from Denver (then a state representative), and State Sen. Kevin Priola, a Republican from Henderson, in



Colorado Gov. Jared Polis at the May 2019 signing of legislation that required Xcel Energy to create an electric transportation plan as State Sen. Kevin Priola, an architect of the bill, looks on. Photo/Allen Best

unincorporated Adams County. The law, [SB 19-077](#), requires the state's two investor-owned utilities, Xcel and Black Hills, to produce plans to accommodate and induce transportation electrification. Xcel, by far the larger of the two and with prior experience in Minnesota, going first. It submitted plans in May as required by the law.

The decision in Xcel's case likely will provide precedent for Black Hills, but the programs here are expected to provide models for other utilities in Colorado who are not required by the law to submit plans.

The plans have many components, including rebates for residential customers who want to install charging infrastructure in their homes. Ditto for business customers.

There's also a component to create charging infrastructure in multi-family housing, a substantial portion of the housing sector in metro Denver-Boulder.

Aaron Kressig, the transportation electrification manager for Western

Resource Advocates, counts himself as one of those likely to benefit from this new charging infrastructure, as he and his wife live in an apartment complex.

“I would love to have an EV, but I don’t have a place to charge it. How is that going to work?”

The plan has provisions intended to assist lower-income people in this transition. But not all of those who live in places without garages are low-income. He points to Denver itself as a place with younger, more affluent people who will be more inclined to be early adopters of EVs—if the charging conundrum can be figured out. The plan proposed by Xcel and approved by Western Resource Advocate and other groups aims to open that door.

Kressig describes a great number of programs, different problems that the plan attempts to solve. Like a Swiss Army knife, he says, a great many tools are needed to solve those problems.

“This proposal before the PUC, may be the best yet in the country,” says Kressig.

“We’re on the cutting edge in seeing real policy decisions being shaped in novel ways in Colorado.”

In addition to using its experience in Minnesota, Xcel’s plan was influenced by prior work in New York, Oregon, and Michigan. “They did a good job in their research,” says Kressig.

The plan represents something of a chicken-and-egg situation for Colorado. There’s no doubt EVs are coming. But without the investment in infrastructure, it would come more slowly. The end goal is the goal of Gov.

Jared Polis, in his first executive governor, of 940,000 EVs within a decade in Colorado. There are now 32,000.

“This proposal won’t get us there. It’s a long journey,” says Kressig. “But it’s an important part of the journey.”

Travis Madsen, at Southwest Energy Efficiency Project, agrees that this electrification plan is an “essential piece” of Colorado’s decarbonization roadmap.

“I think the more robust the plan that the PUC approves, the faster we’re able to move forward on transportation electrification. It’s an essential part of meeting the state’s climate goals, and it has additional benefits of improving our air quality.”

Discussions among the 24 parties at the table in the PUC proceeding since May have not produced complete agreement. A very fundamental disagreement centers on what constitutes a public interest. In other words,

what use of ratepayer dollars can be condoned? Xcel will come out whole; it is guaranteed a rate of return on its investment. So what investments are in the public interest?

That issue has come into sharpest focus with a revised proposal from Xcel’s original \$102 million plan. The idea emerged from Xcel and the Colorado Energy Office to allow Xcel to offer rebates at the point of sale for purchase or lease of new and used light-duty EVs on vehicles of up to \$50,000, as suggested by manufacturers.

The Colorado Energy Office asks for rebates of \$3,000 to \$4,000 for purchase or lease of new light-duty EVs and \$1,500 for purchase of a used EV.

All of these programs would add 67 cents per month to the average residential bill of Xcel customers, the Denver Post reported in November.

Does the law allow vehicle rebates? One view is that investments

Boulder County tops for EVs

EVs per 1,000 people

- 1) Boulder County 0.99
- 2) Denver 0.92
- 3) Jefferson County 0.74
- 4) Arapahoe County 0.63
- 5) Douglas County 0.48
- 6) El Paso County 0.44
- 7) Larimer County 0.43
- 8) Adams County 0.23
- 9) Weld County 0.22

Also
Eagle County 0.08
Garfield County 0.05
Pitkin County 0.04
Routt County 0.02
Gunnison County 0.01
Montrose County 0.01

Source: [EVs in Colorado, Colorado Energy Office](#)

must be limited to infrastructure. The PUC staff, the Office of Consumer Counsel, and the Colorado Energy Consumers are of this position.

The Southwest Energy Efficiency Project, among others, argues for a more expansive view of cost and benefits. Madsen cites the allowance of rebates by Xcel currently of washers and driers. He sees no difference with a car.

Those new EVs purchased with aid of rebates would produce more demand for electricity, which then brings the cost of electricity down for all consumers. It's one of those rare triple wins: consumers, the environment, and Xcel itself, Madsen says.

But even if PUC commissioners do not approve the vehicle rebate program, the program more broadly supported will be a big win for Colorado, says Madsen.

"It would be nice, but it's not essential. The essential piece is making sure that Xcel can make robust investments in infrastructure."

The plan being considered by PUC commissioners also has carve-outs to assist lower-income groups in being part of the transition to vehicle electrification.

Eric Blank appointed to chair the Colorado PUC

[Posted Dec. 11 at Mountain Town News](#)

Colorado Gov. Jared Polis has appointed Eric Blank to the Colorado Public Utilities Commission.

Blank will serve as chair and his 4-year appointment is effective Jan. 11. The appointment is subject to Senate confirmation.

"Eric has a deep understanding of Colorado's energy system and will play an integral role at the PUC in advancing the market and consumer-driven transition to a cleaner, more affordable renewable energy future," said Polis.

Blank has spent his career working in the renewable energy and non-profit sectors and is an entrepreneur and thought leader.

"Eric has a number of impressive qualifications for the position, in particular, his background in business and his legal experience would be assets to the PUC. We look forward to considering this well-qualified nominee when he comes before the Senate," said Senate President Leroy Garcia.

"I'm honored to be chosen by Gov. Polis for this position. Largely because of the leadership of Gov. Polis and the state legislature, I believe Colorado has a compelling opportunity to decarbonize energy systems and to do it in a way that benefits all customers and grows the economy," said Blank.

He replaces Jeff Ackermann, who had a 4-year stint as chair of the PUC. Polis has rarely reappointed individuals originally appointed by his predecessor as governor, John Hickenlooper, to the PUC.

From 2009 to 2018, Blank was president and co-founder of Community Energy Solar. Among its projects was the solar farm adjacent to the Comanche Generating Station near Pueblo, the largest east of the Rocky Mountains at the time of its construction. Before that he was executive vice president of Iberdrola Renewables, where he led U.S. wind development for two years.

He also has a master's degree from the London School of Economics and has a law degree from Yale.

Then there are issues about what role natural gas will play going forward in the built environment. In an interview with [Big Pivots](#) last summer for a story titled "[The next energy frontier](#)," Blank talked about the need to curb natural gas in new buildings. "It's just crazy to build 40,000 houses a year" with natural gas infrastructure in Colorado, he said.

Platte River plots strategies to get to carbon-free power

by Allen Best
Energy News Network *

After quietly taking a lead in the race to decarbonize Colorado's electricity supply, a Fort Collins-based power wholesaler has begun plotting how to eliminate the final and most difficult 10% of emissions by 2030.

Platte River Power Authority is already nearing 50% carbon-free power thanks to major investments in wind and solar projects, with more on the horizon, including a 22-megawatt solar farm expected to come online this month.

As for that last 10%, though, the answers may come not from distant wind farms but instead close to home—literally—and include a pivot in thinking about how the utility maintains a reliable supply of electricity at all times.

"Right now, production chases the load," said Dave Hornbacher, executive director of electric services for the city of Longmont, one of the four municipalities that comprise Platte River. "When we come home and turn on the light and do our laundry and turn on the oven, those things can happen all at once. A traditional power company ramps up the resources necessary to answer that very immediate need."

But with high levels of variable renewables, demand will need to be

* This story was originally published by [Energy News Network](#), a non-partisan, non-profit organizations that advocates for clean energy policies

contoured to better match supplies. This will require more thoughtful interaction between consumers and power sources. Can your electric car be programmed to charge when the blustery wind makes electricity plentiful? Can household batteries store cheap renewable energy to power air conditioners on hot afternoons?

The final steps toward 100% carbon-free power likely will involve neighborhood-level energy production and storage, stepped-up energy efficiency, and a "smarter" and more interactive electrical grid, Hornbacher said, all with a goal of synchronizing demand and production.

Pushing renewables, storage

Utilities in Colorado and elsewhere have traditionally met maximum electricity demand by building bigger coal-fired power plants. Particularly since the 1990s, they've been aided by the addition of fast-ramping

gas-fired plants. That generation was sized to reliably meet the maximum demands — all the while creating pollution, both of carbon dioxide and other exhausts.

Platte River, which serves Longmont, Loveland,

Estes Park, and Fort Collins, has similarly depended on fossil fuels. It operates the 280-megawatt Rawhide coal plant north of Fort Collins, and also imports electricity from the Craig Generating Station, of which Platte River has an [18% ownership stake](#) in units 2 and 3. All these units must be closed by the end of 2028, the Colorado Air Quality Control concluded in November in a ruling expected to be finalized this month.

Now come renewables, carbon-free and mostly less expensive. Utilities have integrated them into power supplies at higher and higher levels without sacrificing reliability or raising costs. But there are limits, at least on local and regional levels. The sun goes down with great reliability

Fort Collins-based utility sees need for more distributed resources and changes in demand management to achieve 2030 goal

every night. Even in places where it seems like the wind blows all the time, well, sometimes it doesn't.

In 2018, when Platte River embraced the 100% carbon-free goal, the utility hovered around 30% non-carbon sources. In its [resolution, directors identified nine advancements](#) that must occur in the near term to achieve the 2030 goal. They include matured battery storage performance and declined costs and improved performance of distributed generation resources.

The resolution also identifies the need for a regional energy market. Such markets by a regional transmission organization can more efficiently coordinate deliveries of renewable energy across broad regions. One proposal calls for strong connections with California and other Western states. Another idea sees stronger links to states of the Great Plains.

Environmental advocates were peeved recently when Platte River directors adopted a resource plan that identifies the possible need for additional natural gas combustion by 2030 to replace the lost coal generation. They accused Platte River of walking away from the 100% carbon-free resolution.

How fast things change

Fort Collins Mayor Wade Troxell, who chairs the board of directors for Platte River, said critics missed how much can change in just four years. He points to Platte River's 2016 resource plan, which failed to foresee tumbling wind and solar prices. Nor did it assume Platte River would surpass 50% renewable generation by 2022.

Symbolically, a 30-megawatt solar farm backed with two megawatts of battery storage now operates adjacent to the Rawhide plant. It will be augmented this month by the 22-megawatt farm, Rawhide Prairie. Other projects could put Platte River at 60% non-carbon sources by the end of 2023.

The investments have put Platte River at the front of the pack among larger utilities in



Fort Collins Mayor Wade Troxell

Colorado, nearly all of which have voluntarily committed to reducing emissions at least 80% by 2030 compared to 2005 levels. "It has become a race to the top," said Zack Pierce, the special climate and energy advisor to Colorado Gov. Jared Polis, on a recent webinar.

Some, like Holy Cross Energy, a co-op serving the Vail and Aspen areas, have also started tinkering with steps to enable complete decarbonization. The co-op may achieve 80% to 85% non-carbon energy by 2024. It recently announced a goal of 100% renewable energy by 2030. Unlike Platte River's pledge adopted two years before, the goal by Holy Cross is not conditioned upon lowered battery prices and other shifts in markets and technology. "We see multiple pathways," Bryan Hannegan, the chief executive of Holy Cross, said.

Troxell sees being a nonprofit as an advantage for Platte River over privately owned utilities like Xcel and Black Hills Energy because they have no need to deliver profits to investors.

All four municipalities in Platte River have also adopted strong climate action goals. Size may also be to its advantage for Platte River, which accounted for 5.7% of the state's electrical sales in 2018, fourth

highest among the state’s utilities. A single project, such as the 225-megawatt Roundhouse wind farm that began producing this past summer, can have a significant impact.

Troxell, a professor of mechanical engineering at Colorado State University’s School of Biomedical Engineering, began getting interested in energy systems in about 1995. That interest led him and two former students to form a company, Sixth Dimension. The company produced power generation for buildings, using primarily diesel generation, but some solar. The intent was to allow the businesses to monetize the cost savings. The company succeeded and was sold to a larger company, and Troxell returned to the faculty at CSU.

How fast things change

The idea of dispersed generation integrated into the grid to achieve maximum value will be among what Platte River will be exploring in the coming years. A decade-old smart-grid infrastructure project in Fort Collins, FortZED, provides a foundation for the work lying ahead. [A \\$6.3 million grant from the U.S. Department of Energy](#), part of the federal stimulus package of 2009, got the project off the ground, bolstered by grants and other assistance from 13 community partners.

One component involved testing technologies that reduced peak energy use and integrated renewable energy, such as solar panels, on the CSU campus and Old Town district. Another element called Lose-a-Watt sought to double energy efficiency. A third set out how to demonstrate how a hybrid DC microgrid could improve efficiency, increase renewable production, and transform how buildings interact with the distribution system. A fourth component tested how behavior change and more efficient equipment could reduce the energy footprint of a building on the CSU campus.

The project, completed in 2017 at a final cost of \$13 million, has helped reform ideas

Colorado’s electrical utilities by sales 2018

1) Xcel Energy	52.5%
2) Tri-State member co-ops	18.5%
3) Colorado Springs Utilities	8.3%
4) Platte River Power Auth.	5.7%
5) Intermountain Rural Elect.	4.3%
6) Black Hills Energy	3.5%
7) Holy Cross Energy	2.2%
8) Other—including several unaffiliated coops and smaller municipalities such as Gunnison and Glenwood Springs	—5.1%

Source: Colorado Energy Office

about the integration of renewable energy and improved energy efficiency.

In Longmont, Hornbacher sees overlapping challenges ahead. The first step is shaving peak demand through tools such as time-based pricing. Can changes in pricing encourage customers to hold off running washing machines or other appliances until times when renewable energy is abundant?

Many utilities already have rate structures that attempt to shave peak demand. Xcel Energy’s critical peak pricing program, for example, offers large-volume users the opportunity to save up to 5% off their annual costs by agreeing to curtailments during critical peak times. It has [several such programs](#).

Fort Collins already has an extensive program to reshape demand. “When you use electricity is as important as how much you use,” the [city’s utility’s website says](#) in explaining its time-of-day pricing schedule. The peak time is 5 to 9 p.m., when rates are 22 cents per kWh compared to 7 cents at other times.

A subcommittee of directors has to deliver a strategy to the fuller board in mid-2021. The utility also recently began an effort to engage customers in the four cities in conversation.

Those conversations, Hornbacher said, “will probably involve things we haven’t talked about or even thought about yet.”

Holy Cross sees multiple paths to summit of 100% clean energy by '30

by Allen Best

[Posted on Dec. 14, 2020](#)

Like its namesake mountain, Holy Cross Energy sees multiple pathways to the top, 100% renewable energy, which it seeks to achieve by 2030.

Implicit in the announcement by the Glenwood Springs-based utility today was recognition of the rapid acceleration of the energy transition as well as growing worry about the risk of the changing climate.

Colorado Gov. Jared Polis credited Holy Cross with being a state leader but also a national leader in executing the energy transition. Holy Cross has shown that “you can do more, better, faster,” he said.

Polis ran for governor in 2018 on a platform of achieving 100% renewable energy in electrical generation by 2040. “My ideas were bold, but they weren’t bold enough,” he said.

Change has accelerated in just the last two years. Holy Cross in September 2018 adopted a goal of 70% renewable generation by 2030 with 70% reduction in greenhouse gases as compared to 2014 levels.

In 2018, three months after directors of Holy Cross set the 2030 goal, directors of

Platte River Power Authority set a goal of 100% carbon-free energy by 2030. However, that Fort Collins-based cooperative attached a set of conditions in order to attain that goal, such as matured battery storage technology and declined prices and creation of a regional transmission organization.

Neither Platte River—which delivers power to Fort Collins, Longmont, Estes Park, and Loveland—nor Holy Cross are anywhere near their goals yet. Platte River expects to move above 50% with addition of a new solar farm later this year.

Holy Cross as of last year was still below 40%. But it will likely blow past its 70% renewable goal by the end of 2021, nearly a decade early, while marching toward 80% to 85% renewables penetration by the end of 2024.

[In an announcement of its “Journey to 100%” goal on Dec. 14](#), Holy Cross mentioned no set of conditions. In a follow-up e-mail, Bryan Hannegan, the chief executive of Holy Cross, described multiple pathways for the utility to achieve its goal.

“Based on our recent research and innovation efforts, HCE believes that there are multiple pathways we can take on our Journey to 100%, including through the development of robust and open wholesale markets for electricity and the regional



transmission grid coordination to support them, as well as through development of local flexible clean energy resources directly connected to our distribution grid,” Hannegan wrote.

“We are committed to finding the best possible route to our strategic goals that preserves and extends our ability to safely provide reliable and affordable electric service even as we move towards a carbon-free power supply.”

At the heart of the vision is greater deployment of new local energy resources as well as a variety of new programs and technologies that better allow demand to connect directly with the variability of renewable supplies.

For a fuller explanation, see Big Pivots No. 24, the Dec. 8 issue, [How Holy Cross Energy intends to deepen penetration of renewables](#).

Some of this gets very technical. For example, Holy Cross has partnered with [Camus Energy](#) to develop a distribution grid operating system that will help the co-op’s members/customers realize the many values of distributed energy resources, such as rooftop solar or “behind-the-meter” batteries for energy storage.

“We believe that distributed energy resources will be a key element of our Journey to 100%,” said Hannegan.

Another crucial step forward will require integration of Holy Cross and other Colorado utilities into a regional transmission organization, or RTO. Colorado utilities have so far advanced toward creating an RTO with the rubbery legs of a 6-month-old child. Holy Cross in concert with another electrical cooperative, Intermountain Rural Electric Association, commissioned a study by Boulder-based Vibrant Clean Energy to document the benefits. That study concluded Colorado would be better served by integration into the California-based RTO called CAISO.

Expanded energy storage will also be necessary. Holy Cross has launched a program to begin installation of batteries into homes, which can better take advantage of locally generated electricity while creating resilience in the case of transmission disruption such as wildfires. It’s part of creating “more flexible” energy demand. The batteries of electric vehicles will also likely play a role in this new more distributed energy paradigm.



Bryan Hannegan

The utility is also thinking bigger with grid-tied resources, including pumped-storage hydroelectricity. Pumped-hydro was conspicuously mentioned in the Holy Cross press release, and it is also mentioned in the strategic plan adopted by directors. Colorado’s largest energy storage project even now is the Cabin Creek pumped-storage hydro project, which uses two reservoirs along the road between Georgetown and Guanella Pass. The water is released when needed to meet peak demands of Xcel Energy, such as on hot summer afternoons, then pumped back uphill when electricity is plentiful.

Holy Cross hasn’t shared details of its thinking, but it obviously has giant amounts of vertical to work with in its service territory.

“We are exploring potential options with respect to pumped-storage hydro in our region. As we move towards 100% clean energy, there will be a need for the kinds of grid services and balancing capabilities that pumped-storage hydro and other long-duration energy storage technologies can provide,” Hannegan said in an e-mail response.

In decarbonizing its electrical supply, Holy Cross has avoided raising rates during the last three years and plans no rate increase during the next year, said Dave Munk, chair of the board of directors of Holy Cross.

Still unanswered is what Holy Cross will do with its 8% ownership stake in Comanche 3, the coal-fired power plant near Pueblo. Holy Cross consigned the power production from the power plant to Guzman Energy a year ago. The plant, however, has produced little power since then, as it has been plagued by debilitating problems, a theme since it began operations in 2010. The Colorado Public Utilities Commission earlier this year decided that it was a fair question whether the power plant might best be closed decades ahead of its originally scheduled retirement in 2070. Xcel Energy is the primary owner.

Holy Cross is paying for that plant, with payments currently scheduled to continue until 2042, according to the electrical cooperative's [strategic plan](#).

In a "travel guide" released in conjunction with the "Journey to 100%" announcement, Holy Cross noted that it has several "unique characteristics that enable us to take these bold steps." It has strong relationships with its resort and agriculture communities who depend on a healthy environment. It also enjoys strong support from its clean energy goals from the large employers—including Aspen Skiing Co. and Vail Resorts—along with member communities who have adopted climate action plans.

It also has legal wiggle room. "Our power supply and transmission agreements give us additional clean energy options that may not be available to other utilities."

Oil and gas interests leery of nomination of Haaland for Interior secretary

There were many hurrahs with the announced that Deb Haaland had been nominated to be the secretary Secretary of Interior. If confirmed she will be the first member of a president cabinet of Native American ancestry.

In New Mexico, though, there were misgivings among top-ranking Republicans and members of the state's oil and gas industry.

"Ms. Haaland has repeatedly demonstrated contempt toward our industry, especially regarding the need for a balanced approach to public land management," Jim Winchester, the executive director of the Independent Petroleum Association of New Mexico, told the Albuquerque Journal.

State Republican Party chairman Steve Pearce said in an interview Thursday that Haaland had been "very hostile" to the oil and gas industry. He added that halting new drilling leases on federal land could have a hugely negative impact on New Mexico's state budget.

As head of the U.S. Department of the Interior, Haaland would oversee aspects of oil and gas drilling sites on public lands.

In her recent campaign for Congress, Haaland said it was time for New Mexico to rethink its reliance on the oil and gas industry, citing droughts in the Southwest, floods in the Southeast, and burning wildfires in the West. She has said she supports a ban on fracking and the Green New Deal.

She is a 35th generation New Mexican who is an enrolled member of the Pueblo of Laguna, and also has Jemez Pueblo heritage.

Built environment to be a major focus in 2021 Legislature

By Allen Best

Expect to see emissions associated with the built environment as a major area of attention during the upcoming legislative session.

Zach Pierce, the special climate and energy advisor to Colorado Gov. Jared Polis, speaking on a recent webinar, described a broad range of potential legislation that could begin to shrink the still-growing emissions from buildings in Colorado.

“We really see a big focus on the built environment in the upcoming session,” he said. Specific ideas include:

- legislation to require that Xcel Energy, Black Hills Energy, and Tri-State Generation and Transmission create programs that support customer adoption of electric heat pumps and other forms of beneficial electrification.
- expand energy efficiency investments from natural gas utilities to support building shell improvements.
- create carbon-reduction goals and leak-reduction targets for natural gas utilities.
- consideration of legislation to create a renewable gas portfolio standard, as was proposed by State Sen. Chris Hansen, a Democrat from Denver, during the covid-shortened session earlier this year. The standard would create an incentive to drive dollars toward capturing methane from dairies, landfills, and sewage plants. In this way, natural gas used in buildings could be reduced. Methane is a primary constituent of natural gas.
- benchmarking of new buildings, requiring existing large commercial buildings to track energy use and make progress

toward energy and pollution performance standards. Denver already has such requirements.

- advancing the building codes.

His remarks were made during a Zoom session sponsored by the Colorado [REpowering Schools](#) program. The mission is to “educate students and their communities about renewable energy” and “increase the pool of qualified labor and inform citizens to make educated energy decisions.” The Colorado chapter is headed by Larry Flowers, a long-time researcher in the wind program at the National Renewable Energy Laboratory.

A staffer in the administration of Gov. John Hickenlooper for three years, Pierce then went on to represent the Sierra Club in Colorado and New Mexico for two years before becoming a Polis advisor in early 2019.



Zach Pierce

Colorado in 2019 adopted aggressive economy-wide decarbonization goals. A draft roadmap was released by the Colorado Air Quality Control Division in September, with a final to be released in January. The draft was criticized by some environmental groups as being too sparse on the itinerary for this path going forward. Pierce defended the vagueness as inevitable.

“We don’t presume to know exactly what the outcome will look like in 2030,” when Colorado by law must decarbonize its economy 50%.

Colorado broadly sees the strategy going forward being one of decarbonizing the electrical supply, then electrifying other sectors, including transportation and buildings.

State officials have consistently said that they are optimistic about the pace of decarbonizing the electricity sector. Most

coal-fired power plants in Colorado are scheduled to close by 2029, and some of the 4 remaining units—at Hayden, Brush, and Pueblo—may yet be similarly scheduled.

“The last few years have been astounding when you think of the commitments we have received from utilities representing over 97% of fossil generation in the state to achieve 80% reductions in emission by 2030,” he said.

“That is a profound shift.”

That has also been a point of pride for Gov. Jared Polis, who cited the same statistic on Dec. 14 in an appearance with Holy Cross Energy when that utility announced its new goal of 100% decarbonization of its electricity supply by 2030.

The legislation in 2019 mandated Xcel Energy to create an 80% reduction (compared to 2005 levels) plan for 2030, but delivered a softer glide for other utilities, including those not directly regulated by the state. It created a safe-harbor provision that allowed Platte River, Colorado Springs Utilities, and others to create carbon-reduction plans.

“We think it has been a really powerful tool, because it has allowed the utilities to work through their own planning processes.”

Some members of the Air Quality Control Commission have probed Polis administration officials about the need to adopt additional laws, such as putting an economy wide price on carbon.

(A 2019 law established a social cost of carbon to be applied to Public Utilities Commission evaluation of energy resource plans submitted by Xcel, Black Hills, and Tri-State).

Several environmental groups, including Western Resource Advocates, have similarly questioned the pace but also the sufficiency of the existing tool kit.

“We don’t necessarily prioritize new legislation in this space, because we feel we have all the regulations that we need to continue to progress in this sector,” he said,

referring to the electric sector. However, other legislative proposals may be made.

“We will review and engage on those appropriate to advance the governor’s bold platform on renewables, pollution reduction and climate action,” Pierce explained later.

Pierce also said that the Polis proposed budget for 2021-22 would deliver \$40 million to clean energy finance programs. Of that \$30 million would go to the Clean Energy Funding program administered by the Colorado Energy Office. Additional funding would go to a new climate resilience office in the Department of Agriculture and provide money for the still-skeletal office of Just Transition, The office was created by the Legislature to help communities and workers impacted by the transition from coal.

Legislators assumed a greater impact to state revenues from covid in 2020 than in fact occurred, which is why there could be money available for clean energy. The state still assumes a significant deficit in coming years.

Among the questions Pierce fielded was that posed by Flowers, the webinar organizer: What would be the impact of the incoming Biden administration on state-based activities in the energy transition.

“It’s hard to overstate having a federal administration that at the baseline level shares a commitment to climate action but also recognizes the economic opportunities represented by the transition to a clean energy economy,” Pierce answered.

He cited reversal of rolled-back rules, such as those governing automotive emissions, as what can be expected.

But Colorado, he added is not counting on any federal action to reach its goals. At this point, it’s the state leading the federal government.

“The incoming administration will benefit from meaningful ways the host of states have taken the torch and chosen to move forward,” he said.

In cleaner air dance, it's one step forward then it's back you go

by Allen Best

[Posted on Dec. 17, 2020](#)

Retirement of three Colorado coal plants, which had been pushed forward to late 2028 in a November decision by the Colorado Air Quality Control Commission, has been pulled back to 2029.

Among those advocating for later retirements was an official in the administration of Gov. Jared Polis responsible for helping draft a strategy to decarbonize Colorado's economy 50% by 2030.

Will Toor, director of the Colorado Energy Office, responded to the November decision with a letter to air quality commissioners saying his department is "very supportive of retiring coal generation as soon as practicable and replacing it with lower cost wind, solar, and storage – and has worked very hard with utilities across the state to achieve this."

All that said, he added, "we have serious concerns with this decision."

The Air Quality Control Commission had ordered that the coal plants near Colorado Springs, Fort Collins, and Craig be retired by the end of 2028. The owners—Colorado Springs Utilities, Platte River Power Authority, and Tri-State Generation and

Transmission, respectively—had previously committed to closures by the end of 2029.

Air control commissioners had also indicated they would take up the matter of accelerated closures of Xcel Energy's two units at Hayden. In addition to the two units at Hayden, it also has all the Colorado coal units currently scheduled to operate beyond —2030: the Pawnee unit at Brush, of which it is sole owner, and Comanche 3 at Pueblo, of which it has two-thirds ownership.

The proposal to advance retirements had originated with the Sierra Club and the National Parks Conservation Association. Testifying in support, Ron Binz, a former chair of the Colorado Public Utilities Commission, described the new dates as "nudges." The commissioners agreed in a 5-2 vote. [See, A nudge, not a shove.](#)

In 7-0 vote on Wednesday, the commissioners withdrew from that preliminary decision. The commissioners voted shortly after emerging from an hour-long executive session. Tom Roan, an attorney from the state Attorney General's Office, reported "takings and related questions of procedure" were discussed.

The matter before the commission most directly was the need to reduce regional haze caused by emissions from coal plants that results in degradation of Rocky Mountain National Park but also federal wilderness areas. That haze violates provisions of the Clean Air Act, and the commission has responsibility for getting Colorado into compliance.



In 2019, state legislators gave the air commission primary responsibility to create policies in Colorado to achieve reductions in greenhouse gas emissions. The two goals overlapped in the discussions of commission members in November, and they did so again on Wednesday.

Utilities had testified against the hurried-up retirements in November. After the preliminary decision, they submitted an objection to the Air Quality Control Commission that said, in not so many words, “It’s just not fair.” The not-so-subtle subtext was a challenge about legality.

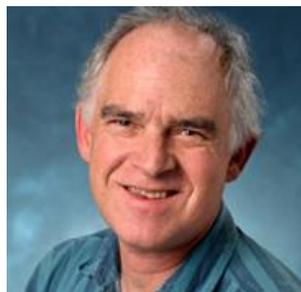
They said the commission had no legal authority and also lacked source-specific technical support and that the action “could result in an arbitrary and unreasonable taking of property rights.”

The utilities also said the commission was trying to make decisions about energy resources, including costs and rates, reliability and transmission, that are “clearly outside the expertise and jurisdiction” of the commission and the Air Pollution Control Division staff.

Then there was the deal offered by legislators in their 2019 law to induce utilities to voluntarily create clean energy plans. That law had offered a safe-harbor provision. Platte River, Colorado Springs, and Tri-State had all agreed to meet the state’s decarbonization goals within that framework.

Toor made the same point. Utilities have much to think about in terms of planning their resource generation, he pointed out. The state’s Public

Utilities Commission can best evaluate that planning —as it has done with Xcel in the past and will do so again next year when that utility submits plans for the next decade. It has started, for the first time, that



Will Toor

same process with Tri-State. As municipalities, Colorado Springs and Platte River are exempt from state utility regulation. Platte River is a creation of four northern Colorado cities.

In his 3-page letter, Toor also alluded to practical considerations involved in the “bigger picture of achieving our climate goals.”

“Achieving economy-wide emissions reductions will require widespread electrification of cars, trucks, and buses, and a significant level of electrification of buildings and industry,” he wrote.

“Implementing these policies will impact utility planning and the resources needed to ensure we are transitioning to a cleaner grid. The cost of electricity will be very important to making the economics of this transition attractive to vehicle and building owners. Potentially adding unnecessary costs by making resource planning decisions without an analysis of the cost impacts may limit investments in electrification.”

Before voting, the commissioners said relatively little.

“I want to reconsider my earlier vote,” said Jana Milford, who had voted for the closures in November. “I have reservations about the adequacy of the information used to support the earlier proposal.”

Elise Jones said she would vote for the reversal “because “we absolutely need to,” but also spoke to the dual missions of the commission. Commission members needed to have a discussion about carbon reduction targets identified in S.B. 236 and utility emissions, she added. That discussion “didn’t fit quite as well in regional haze as it might have been.”

After the meeting, Matt Gerhart, staff attorney for the Sierra Club Environmental Law Program, said he was “extremely disappointed” to see Toor’s position in opposition to the advanced coal retirements.

“We were disappointed to see Colorado’s leaders support the continued use of coal-fired power plants, which are the largest sources of air pollution in our state,” he said in an interview.

Gerhart also described Colorado as a laggard among many Western states in its pace of coal retirements.

“Oregon just shuttered its last coal plant. Washington will have no coal plants by the end of 2025. New Mexico’s largest investor-owned utility now plans to get out of coal entirely by the end of 2024,” he said. “So a lot of other Western states are transitioning away from coal much faster than Colorado.”

Colorado remains relatively coal-heavy in its electricity generation, although that has been falling rapidly and will decline even more in the next five years as two coal-burning units at Pueblo and one at Craig close. Too, utilities have been using their coal plants at lower capacity as they have figured out how to integrate higher levels of renewables.



Matt Gerhart

In 2019, [according to a chart](#) derived from information from the U.S. Energy Information Administration, Colorado got 45% of its electricity from coal combustion, compared to 4% by Oregon and 7% by Washington. New Mexico was close to Colorado, with 42% of its electricity coming from coal. In contrast, Wyoming got 84% of its electricity from coal.

Pacific Northwest states have much higher levels of hydro. Washington state had nearly 63% and Oregon 47% compared to Colorado’s 2.5%.

Tri-State scores small gains in effort to retain key ‘family’ members

[Posted Dec. 18, 2020](#)

Tri-State Generation and Transmission won two minor victories this week in its effort to keep its “family” of electrical cooperatives intact. One was at the Colorado Public Utilities Commission, and the other at the monthly meeting of La Plata Electric.

Brighton-based United Power and Durango-based La Plata Energy have asked the wholesale supplier what it will cost to exit from their full-requirements contracts with Tri-State. In both cases, those contracts are to expire in 2050.

Losing these two members would likely damage Tri-State’s business model, which is already struggling to pivot to cleaner, lower-cost energy after years of clinging to a portfolio heavy in coal generation. United and La Plata together are responsible for roughly 30% of wholesale power purchases by its 42 utility members across a four-state area. About two-thirds of its sales are to Colorado coops.

At issue is how much it would cost to get out of their contracts. United has negotiated with Tri-State but complained that Tri-State wanted an exorbitant fee. Tri-State declined to give La Plata a figure. Both utilities want to explore their options in obtaining lower-cost electricity and, particularly in the case of La Plata, developing local sources.

The two utilities a year ago appealed to the PUC to be the mediator in the dispute. But despite almost a week of testimony before a PUC administrative law judge last

Please recommend Big Pivots to those interested in Colorado’s great transitions in climate, energy and more.

Subscribe at [BigPivots.com](https://www.BigPivots.com)



United Power jostled with Tri-State with its battery storage, which began in December 2018.

summer, the PUC commissioners declined to take the case pending clear jurisdiction.

Right now, the Federal Energy Regulatory Commission has jurisdiction of determining what constitutes a fair exit fee. But that jurisdiction is provisional. To get FERC jurisdiction, Tri-State added several non-utility members: a natural-gas trading firm in metro Denver, a greenhouse in Fort Lupton, and a ranch/guide and outfitter in Craig.

United Power filed a lawsuit arguing that Tri-State added the non-utility members in a way that violated Colorado law. That case is in Adams County District Court.

Pending resolution of that lawsuit, the PUC doesn't want to attempt to rule in the disputes between Tri-State and its two members. The federal supremacy clause of the Constitution makes it clear that federal agencies have jurisdiction in such cases.

PUC commissioners made that decision Wednesday morning from their dispersed home offices in Denver, Edwards, and

Paonia. That afternoon directors of La Plata Electric were gathered virtually in southwestern Colorado to determine the pathway forward for their cooperative.

La Plata hasn't abandoned its attempt to explore options for getting out of Tri-State, but in an important move, directors agreed to explore the olive leaf that Tri-State offered earlier this year in the form of a contract that would allow La Plata the ability to self-supply 50% of its power supply needs.

"Preliminary analysis shows this option would deliver significant – and immediate – benefits to LPEA's membership in terms of reliability of power, cost of power, and carbon reductions."

La Plata said board members will not make a final decision on future power supply until more details are available about the benefits and risks of its various options. At least some details will be available in February.

Colorado Solar & Storage gladly supports Colorado-based energy journalism and is pleased to underwrite this effort.

