

BIG PIVOTS

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

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What it will take to charge a million EVs in Colorado with cheap renewables?

by Allen Best

By 2030, Colorado hopes to have nearly a million electric vehicles on the road. They can be fueled cheaply with renewable energy—but only if the charging occurs when there are ample supplies.

How can that happen?

That's the fundamental challenge being explored by Charging Perks, Xcel Energy's pilot program that will involve five major automakers and up to 600 owners of EVs.

"This is a really innovative pilot," says Aaron Kressig, transportation electrification manager for Western Resource Advocates, an environmental advocacy group.

"The technology that is being used in this pilot is really exciting to me. It's a step forward from what a lot of other utilities are doing in terms of smart charging. Something like this could ultimately be scaled up."

Utilities in Utah and elsewhere are also confronting the same challenge of figuring out how to manage the fast-

growing demand caused by EVs in the coming decade to nimbly dance with the supply of energy from renewable sources. As you're likely already sick of hearing, the wind doesn't always blow and the sun disappears daily.

Gluts of renewable energy can also be a problem. It will linger until means can be found to store large quantities of energy for days, even weeks, and not just hours. Another partial answer may be greater linking of energy sources across broader regions. Colorado currently is something of an island.

The baseline—the old paradigm, if you will—was to just let people charge



Xcel Energy's Cheyenne Ridge wind farm in eastern Colorado. Photo/Allen Best

whenever they want. If they want to do so upon getting home from work at 5:30 p.m., for example, that only adds to an existing peak demand. Xcel's highest demands each year occur in summer, during late afternoons and early evenings, when air conditioners are cranking.

Time-of-use rates are the next step. They reflect the usual abundance of supplies, explains Kressig.

Usually, Xcel's demand is lowest in the darkest hours of the night, after most people have gone to bed. And that's when the wind turbines are usually cranking abundant power. Usually. Most smart-charging applications remain in preliminary stages and rely on "usual conditions."

Xcel's new program goes further. It relies upon day-ahead forecasts. In using the forecasts, the program is designed to avoid what Kressig describes as an overloaded electric grid—or to take advantage of unusual wind conditions.

"I think the events where this pilot would be particularly interesting would be something like, an unexpected wind event at 9 p.m. or some unusual time when maybe normally the EVs wouldn't be set to charge normally until 11 or midnight," he says.

To address this, Xcel has partnered with now five major automakers. First came owners of Teslas. Xcel on Oct. 1 announced that agreements had been reached with BMW, Ford, General Motors, and Honda. That makes purchasers of their EVs eligible for this pilot program. Customers will get up to \$300 for participating.

Central to this program is new technology in the car, not in the garage of the EV owner. That's where the auto manufacturers come in. This was outside the boundaries of the business model and expertise of Xcel, as it is for other utilities.

In this pilot, Xcel will work with the automakers to remotely manage when vehicles charge. They will do this using onboard communications, smart phone apps, and customer websites. The intent is to make charging optimal for the grid but also at lowest cost and easiest for customers.

Automakers will use information from the customers and their vehicles, pairing it with grid information from Xcel to create a charging schedule that ensures a customer's vehicle is charged sufficiently

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and charged at times that are best for the energy grid.

“This is new stuff for them,” says Kressig of Xcel. “It’s been a long journey. A lot of people in the EV community thought they would never get this to work.”

Xcel may ultimately use this information to design new programs where many more EV customers will be eligible to participate. The utility, which operates in six states, has actively participated for several years in research and demonstrations to advance electric transportation with the Electric Power Research Institute.

“We’re excited because this pilot enables new paths to help manage the grid as we move to increase renewable generation on our system to approximately 80% by 2030,” said Alice Jackson, president of Xcel Energy-Colorado, in a prepared statement.

“As we bring 30 new (models of) EVs to market globally by 2025, we believe programs like this can simultaneously benefit adoption, the grid, and the environment,” said Alex Keros, lead architect of EV infrastructure and charging at General Motors.



Cruising to Old Faithful in a loaner Chevy Bolt a blast

“To be blunt, I loved it,” reported Mike Koshmrl of the Jackson Hole News & Guide after cruising to Old Faithful in nearby Yellowstone National Park in a loaner all-electric Chevy Bolt I.

The Jackson-based local electrical cooperative had made the car available, and Koshmrl decided to get wild and crazy by setting out on the 203-mile roundtrip with very little charging infrastructure to fall back on.

But driving more slowly, as is the way on roads in crowded national parks, lends itself to better mileage. It turns out he had battery capacity to spare. He could have gone 300 miles.

Crunching the numbers, Koshmrl found he had consumed \$2 in electricity, compared to \$30 in gas if he had driven his pickup. And partly because this is on the Snake River drainage and part of Bonneville Power Administration’s hydro-heavy (and carbon-light) grid, he and his girlfriend and their big dog (after all, Jackson is a mountain town) produced just a single pound of carbon dioxide emissions. The pickup would have spewed 142 pounds.

The environment-loving residents of Teton County, a.k.a. Jackson Hole, could do well to electrify. They tend to drive a lot, and their per-capita emissions have been growing, 21.2 tons per person annually, more than a third higher than the national average.

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Auden Schendler on big oil & why voluntary action just isn't enough

Auden Schendler speaks well and writes well and has never been shy about expressing his opinions, at least as regards the imperative of responding to the threat of climate change.

He's the senior vice president of sustainability for the Aspen Skiing Co., a position which offers him a more prominent platform but also has a way of making him vulnerable because—well, Aspen's business model is dependent on rich people flying long distances, many of them in private jets.

His essay, [“Big Oil Wants You to Blame Yourself,”](#) was published on Sept. 5 in the Sunday New York Times, his second Times op/ed in three years.

Big Pivots had an e-mail conversation with Schendler:

Big Pivots: What does it feel like to get published in arguably the world's most influential opinion section?

Auden Schendler: I'm a writing geek and don't take this lightly. It took me 30 years to get in the Times as a solo author. And the difficulty of the task was equal to the accomplishment.

There's nothing like the Times for reach. My Twitter, email and Linked-In accounts exploded, and are still going off. You just reach so many eyeballs. I have published many pieces in obscure journals

where my mom was probably the only reader. And that was good stuff, but nobody saw it. That's the writer's life much more than getting in the Times.

Pivots: I can relate. You take on “carbon neutrality” in your most recent piece. You say that in adopting this goal, Amazon, Microsoft, Starbucks—and well, even ski resorts and your local coffee roaster, too—are doing exactly what the fossil fuel industry wants. What does the fossil fuel industry want?



Schendler: As long as civil society, business, and government stays out of their way, the fossil fuel industry is happy. So, carbon neutrality, science-based targets, circular economies—all these voluntary measures that don't affect them, they love and support it all.

What they fear are social movements, board takeovers like what happened to ExxonMobil this summer, public shaming, CEOs calling for climate action. They don't want regulation or, say, taxation of carbon.

And if they do support a tax, it's so that they can avoid regulation, or vice versa.

The turn my essay makes is that it's not just "not enough" to do your carbon neutral thing: It's complicit with a power structure that is destroying us.

Pivots: You cite the example of a smaller but still serious problem, the ozone depletion of the 1970s and 1980s. Why was the response to that problem relevant to our challenges today?

Schendler: I used that example to show that big systems problems need solutions that are to scale, and that we're capable of it. I don't think it's a perfect analogy for climate, because the urgency behind dealing with the ozone hole was based primarily on science, and a profitable solution existed—it was before faith in science was gutted by disinformation and money.

With climate, the scale solution looks like a social movement, not as much a technocratic/government fix, at least initially. You need the movement first to enable the policy fix.

Pivots: Your New York Times piece seems to be a condensed version of your much longer piece published in April 2021 by the Stanford Social Innovation Review. Had to love that opening paragraph in your essay, "[The Complicity of Corporate Sustainability](#)," which you end by talking about cooking chicken feet. Does that come from personal experience?

Schendler: Yes, the Stanford piece is my [bildungsroman](#) and I would urge anyone interested in this thinking to read that. The notion of efficiency as being like Chinese cooking came from Amory Lovins' colleague

Eng Lock Lee, an engineer, who notes that in Chinese cooking, you don't waste anything.

But the point is well taken: the modern environmental movement's basis in efficiency and individual responsibility and action (whether at the person or corporate level) has a long history in the U.S. that isn't entirely the result of fossil fuel industry deviousness. It goes back to Yankee thriftiness and Thoreau tending his beans. As two colleagues—Derik Broekhoff and Mark Trexler—pointed out to me, the environmentalists put the gun of personal responsibility to their heads; BP just pulled the trigger with its carbon footprint calculator.

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Pivots: In that Stanford essay, you tell about your time at the Rocky Mountain Institute, working among such luminaries as Amory Lovins, Paul Hawken and others. Lovins, in particular, is famous in my memory for saying that businesses should do things that save energy because it saves them

money. But you say that the idea of business transformation, while having merit, comes up short. You say, “The issue isn't only that sustainable business practices don't scale, although this is true and pertinent. The problem is that they displace meaningful action.”

What is meaningful action?

Schendler: You have to ask: “is the thing I'm doing to address climate change (which is the sine qua non of dealing with sustainability) actually moving the needle? Will it result in meaningful carbon reductions in a meaningful timeframe?”

That filter is clarifying. Essentially, the only way we get to a climate stabilizing at 2 degrees C above preindustrial times is

through aggressive government action. And the only way we get that is through a massive social movement.

So the question is: “How do you wield what power you have to support the movement and or ensure aggressive government policy?” It’s not through buying carbon offsets and cutting your carbon footprint, and it’s not through tracking your emissions meticulously. That kind of head-down navel gazing is uncontroversial, but also fails to engage the problem at any scale.

It’s not hard to tell if a business is using its power in a meaningful way. Are they speaking out loudly and repeatedly from the highest level—the CEO and marketing outlets, social media and email—using all their tools and influence? Are they withdrawing from trade groups or aggressively pressuring them, or hiding behind them?

A great example is happening right now around the reconciliation bill, which is America’s last shot at meaningful climate legislation. Job one, if you profess to care about climate, should be to ensure the reconciliation budget gets through, first, and second, that it has adequate climate measures—like a lot of money to rebuild the grid, a national clean energy standard, a carbon border tax.

But a [huge number](#) of the admired businesses that say they care about climate are opposing reconciliation because they don’t want their taxes to go up.

Pivots: Are the ski and outdoor industry trade groups using all their power, public and private? How do you see them as compared to other industry groups?

Schendler: For years I thought that skiing and outdoor sports would eventually fade away due to lack of snow. Now I think we’re just going to burn down. And it’s

happening right now—see the Sierra at Tahoe experience. So there is huge urgency here. And yet, if this reconciliation bill doesn’t get through with substantial climate features, we may have missed the last opportunity to turn the tide.

So I’ve always hoped for way, way more aggressive action from the trade groups—meaning that climate is clearly a top priority, the head of the orgs talk about it and write about it all the time. I’ve been

pretty disappointed. But it’s changing. Snowsports Industries Association of America has stepped up admirably under Nick Sargent’s leadership, applying pressure to elected officials, changing social norms by talking about climate. The

National Ski Areas Association just sent a letter to the congressional ski caucus supporting climate action in the reconciliation bill. That’s great. Is this enough? There’s a good case to be made that we need to be [vastly more radical](#).

Pivots: Reviewing your 2009 book, [“Getting Green Done,”](#) I see you working two very big and overlapping ideas. One is that climate change demands action at scale and, as in these more recent essays, that voluntary efforts by businesses ultimately fall short. For example, on page 22, you say:

“The goal of this book is to help you define meaningful action and then get those jobs done. That might mean changing your lightbulbs, but don’t stop there. Figure out how you can leverage yourself as your business to drive policy changes at the highest level—how can you help ensure that everyone on the planet changes their lightbulbs—and recognize that this work, in the end, will have the greatest impact.”

Yet, your thinking has also evolved. How?

For a true sustainability effort, you need to couple a government affairs department with some courage and balls.

Schendler: When I was writing “Getting Green Done,” I was of the mindset that all the actions we were taking in the sustainable business arena—mostly around energy efficiency and renewables—were good and necessary, but we weren’t being honest about them and then we weren’t using that street cred to pivot to policy.

My new understanding of corporate sustainability, boiled down to bare bones, can be summed up in two ideas.

First, “corporate sustainability,” and the measures such an approach would implement, is really just “business management.” It’s a misnomer, because most of the actions make sense, save money, generate good PR, and importantly, don’t actually address sustainability if you think of it globally.

And second, effective work on sustainability is really what’s today called “government affairs.” I’ve been frustrated when corporate sustainability staff can’t do policy. But that’s like trying to drive a nail with a crescent wrench—it was the wrong tool.

For a true sustainability effort, you need to couple a government affairs department with some courage and balls.

Pivots: Give me one sentence from your New York Times essay that you want people to remember. OK, two sentences.

Schendler: Imagine if businesses put as much effort into climate *lobbying* as climate neutrality.

Pivots: Somebody told me recently that climate warriors can be grouped into two camps, the Al Gore followers and the Bill McKibben followers. Accurate?

Schendler: That’s a great line. Gore may be the smartest guy working in the field, and McKibben is both the most strategic and the best pure human being.

I have great respect for them both, but I’m in McKibben’s camp. Overall, I think the field has suffered some from lack of leaders.

Both of those guys would tell you they didn’t necessarily want that role, and would welcome new voices. In fact, McKibben spends a lot of his time cultivating and supporting young leaders.

Pivots: Readers of Big Pivots tend to be well versed in climate change issues. Just the same, anybody to whom you’d direct their attention. And why?

Schendler: There’s a growing cabal of apostates who are questioning business as usual in corporations and society.

It’s been incredibly refreshing to have an expanding community of what one member calls the “grouchy men’s club.” They include Tariq Fancy, on ESG issues, Andy King at Boston University, Ken Pucker at Tufts, Duncan Austin who coined the term “greenwashing,” and a few others, including Tom Lyon at University of Michigan, Mark Trexler, who I’ve worked with for years on climate risk and head-exploding corporate sustainability stupidity.

If you google them you’ll find their work, and it’s worthy and unconventional. This group would make a great cocktail party.

Pivots: Got anything more in the works for the NY Times?

Schendler: No, I’ve thinking more about retirement than getting in there again...

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Without a carbon price “everything we do on climate is, in a sense, window dressing”

Colorado Sen. John Hickenlooper last week said he believes there’s a 50-50 chance that that reconciliation process being used to advance sweeping legislation through Congress will put a price on carbon.

“That would be a hallmark of the reconciliation package if we can get that done,” said Hickenlooper, a Democrat who took office in January after eight years as governor of Colorado.



John Hickenlooper

Without a price on carbon, he said, “everything we do on climate is, in a sense, window dressing,” he said in a video-conference sponsored by the [Clean Energy Business Network](#).

“But a price on carbon with tariffs so that we can help the rest of the world follow our lead, that would be a powerful incentive so the global community will help us deal with this head on. This is the foundation of everything,” he said.

It’s by no means a sure thing, he said, but it’s “probably 50-50, to be honest.”

Early on, said Hickenlooper, some people were skeptical that a carbon price could advance through Congress as part of this sweeping package. That included White House staffers. “They’re coming around,” he added.

The video-conference offered no opportunity for questions from viewers.

In the Colorado chapter of Citizens’ Climate Lobby, an advocacy group for carbon pricing, Hickenlooper’s remarks were cheered. David Kline, co-coordinator for the group’s Colorado steering

committee, said more than 16,000 people in Colorado have contacted the White House and members of Congress at the urging of the group.

“We have definitely been pushing,” he said. We like to think that we have had some part of it, some causation of the shifting attitudes.”

He noted that Colorado Sen. Michael Bennet has also spoken in favor of carbon pricing.

Hickenlooper’s observation of growing support was echoed by the New York Times on Monday. The newspaper said the support had grown in recent days after a major element in President Biden’s climate plan has died. Biden had proposed a clean electricity program, but U.S. Sen Joe Manchin, the Democrat from West Virginia, had indicated he would oppose it.

Manchin’s vote, as the 50th Democratic vote, is crucial to passing anything.

But if support has grown, a carbon tax can be politically explosive, the Times noted.

“Industries could pass along their higher costs, leaving President Biden and fellow Democrats vulnerable to claims that they are raising taxes on the middle class, at a moment when inflation and energy prices are rising. Environmental justice advocates say a carbon tax permits companies to continue polluting, albeit at a higher cost, which disproportionately harms low-income communities. And it is unclear if Mr. Manchin, whose vote is crucial to Mr. Biden’s legislative agenda, would support a carbon tax.”

Hickenlooper said he believes the Senate will pass both the reconciliation and infrastructure bills but, in the case of the former, it has had a hard time figuring out which is first, the cart or the horse. As for reconciliation, he suggests a final package at \$1.8 trillion to \$2 trillion. And because of changes in the tax code, “this will allow us to build back better in a way that we can

look America in the eye and say, ‘This is all paid for.’”

The bipartisan infrastructure bill has \$73 billion for rebuilding and expanding the grid, significant resources for charging stations for electrified vehicles, and other incentives that Hickenlooper said will be necessary to accelerate vehicle electrification.

Hickenlooper also cautioned about challenges of spiking prices for fossil fuels in coming months that will almost certainly make it more expensive to heat homes and for automobile commuters.

Batteries in Longmont

Most of the Clean Energy Business Network session was devoted to the federal legislation’s potential impact on acceleration of vehicle electrification.

“In the coming decades, internal combustion engines are all going to disappear. That’s a fact,” said Doug Campbell, chief executive of [Solid Power](#), a Louisville-based company intent on producing all-solid-state rechargeable batteries for electric vehicles and mobile power markets.

Batteries—now exclusively lithium-ion—constitute the most valuable component of electric cars, he said, and they are not produced in the United States or even by U.S.-based companies. “This is an opportunity to change that supply-side dynamic,” he said. He called for a public-private partnership—but not to support lithium-ion batteries, but instead the new technology, including the product his company is developing.

“The next stage of production will require some form of public-private partnership,” he said.

The National Energy Renewable Laboratory has been engaged in working on solid-state batteries and charging infrastructure, said Jhoney Green, the associate laboratory director for mechanical and thermal engineering sciences. He

pointed out that the cost of lithium-ion batteries has dropped more than 90% during the last decade. “But we have more work to do.”

RJ Harrington is trying to help the charging infrastructure as a business developer for [National Car Charging](#). He talked about financial and other dynamics driving decisions about charging infrastructure.

BlueGreen Alliance notes polling showing strong Colorado support for the Build Back Better Act

The Blue-Green Alliance on Sept. 28 released polling data showing strong support among Colorado voters for the \$3.4 trillion Build Back Better plan now before Congress.

The poll of 400 voters by Hart Research on Sept. 24 found that 58% strongly or at least moderately favored the plan, while 35% strongly or at least moderately opposed the plan.

A strong partisan tilt was evident. Of Democrats, 85% favored it and only 11% opposed it. Of Republicans, 64% opposed it and 27% favored it. Of unaffiliated and other voters, 60% favored it.

The plan has many aspects to it, including water infrastructure, a buy-America first component, and a drive to increase clean and renewable energy sources to 80% by 2030, the same as in Colorado.

In a press conference announcing the results, State Sen. Chris Hansen, a Democrat from Denver, pointed to SB 21-72, which he sponsored and which seeks to drive decisions toward a better integrated electrical grid in Colorado and beyond. Colorado could benefit from federal investment. Because of the size of the problem of clean energy and electrical

transition, he said, there needs to be a federal aspect to solving it. He noted some bipartisan support. Union electricians also support the drive to expand renewable electricity. Rich Meisinger, the business manager for IBEW Local 111, said that Colorado's production from small solar and wind farms and molten salt storage facilities needs to be available for sharing across the country.

Polis appoints 12 to new boards to advise on clean transportation

Colorado Gov. Jared Polis has made appointments to two advisory committees involved in the transition to clean energy as required by SB 21-260, Colorado's massive transportation bill.

Appointed to terms expiring September 2024 on the Clean Transit Enterprise committee to be administered through the state's Department of Transportation are:

- **Deyanira "Deya" Zavala** of Westminster to represent a transportation-focused organization that serves an environmental justice community. She directs [Mile High Connects](#).

- **Bonnie Trowbridge** of Berthoud, as a representative of a public advocacy group that has transit or comprehensive transportation expertise. She directs [Drive Clean Colorado](#).

- **Matt Frommer** of Denver, as an individual with expertise in zero-emissions transportation, motor vehicle fleets, or utilities. Frommer is with the [Southwest Energy Efficiency Project](#).

Those appointed with terms expiring in September 2025 were:

- **David Averill** of Telluride to represent rural areas and has transit expertise. He directs the [San Miguel Authority for Regional Transportation](#) (SMART);

- **Mark Garcia** of Pagosa Springs, who is a member of the Colorado Transportation Commission and is the town manager of Ignacio, and;

- **Cris Jones** of Boulder to represent an urban area and who has transit expertise. He is deputy director of the Boulder Department of Community Vitality.

Another advisory board, the Clean Fleet Enterprise, which is nested within the Colorado Department of Public Health and Environment, is charged by the law with incentivizing and supporting the use of electric motor vehicles.

Those appointed with terms to September 2024 were:

- **Carlos Gonzalez** of Colorado Springs to serve as an individual from a disproportionately impacted community;

- **Greg Fulton** of Denver to serve as an expert in transportation; he is CEO of the [Colorado Motor Carriers Association](#);

- **Tim Reeser** of Johnstown because of his expertise in motor vehicle fleet electrification. He is the chief executive and co-founder of [Lightning eMotors](#) in Loveland.

- **Huma Seth** of Arvada, who is from a business that operates a motor vehicle fleet.

Those with terms expiring in September 2024 who were appointed are:

- **Will Allison** of Denver because of air quality expertise. He is a former director of the Colorado Air Pollution Control Division.

- **John Tayer** of Boulder, an expert in business or supply chain management. He is chief executive of the Boulder Chamber.

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Can Tri-State clean up its power faster and even deeper?

By Allen Best

Colorado's second largest electrical utility has committed to 80% reduction in carbon emissions by 2030 as compared to 2005. But can it cut even deeper, faster?

Filings with the Colorado Public Utilities Commission in late September offer a peek into the thinking of both that utility, Tri-State Generation & Transmission, and various other groups at the table.

"It is not reasonable to construct and integrate the sheer quantity of modeled new resources under this scenario," says Tri-State in a filing submitted on Sept. 28. "The extent of the resources called for in eastern Colorado and Wyoming before 2028 are not physically possible on Tri-State's transmission system."

Tri-State was responding to a scenario called Roadmap, which calls for early retirement of 800 megawatts of coal generation—including the final unit at the Craig Generation Station in Colorado by 2028, ahead of Tri-State's current plans of New Year's Eve 2029.

That same Roadmap scenario would also have Tri-State curtail its use of a coal-fired power plant in Arizona called Springerville, cutting off production from the plant altogether in 2028 and also idling its share of Wyoming's Laramie River Station coal plant for three to five months at a time.

Tri-State supplies electricity to 18 of Colorado's 22 electrical cooperatives as well as 24 others in New Mexico, Wyoming, and Nebraska. Unlike Colorado's two investor-owned electrical utilities, Xcel Energy and Black Hills, it had not been required to submit electric resource plans to the state regulatory body until a 2019 state law said it must.

In practice, Tri-State operated much like the private companies even if it is a non-



Tri-State Generation and Transmission has a power-purchase agreement for 104 megawatts of generating capacity from the Crossing Trails Wind Farm, a wind farm between Seibert and Kit Carson, in eastern Colorado, on Oct. 3. *Photo/Allen Best*



Tri-State Generation and Transmission has upped its stake in the Laramie River Station near Wheatland, Wyo., motivated primarily because of the added transmission the deal gives it, according to a filing. Photo/Allen Best

profit cooperative, a creation of its member cooperatives. Individual cooperatives as well as municipal utilities still are not required to submit such plans.

In this inaugural voyage under the 2019 law, Tri-State submitted its electric resource plan in December 2020. Tri-State promises 80% reduction in carbon dioxide emissions by 2030 as compared to 2005 (and 70% renewables). Xcel, the state's largest utility, says it can achieve an 85% reduction (and 80% renewables).

Tri-State sees its path forward including more than 2,000 megawatts of new renewables, both wind and solar, as well as energy storage, by 2030.

Stakeholders have alternative ideas about how Tri-State should move forward, most calling for a more rapid retreat from coal. Their proposed scenarios have been modeled by Tri-State with aid of its new modeling software developed for utility planning.

Those stakeholders—who didn't necessarily agree with each other in all cases—consist of the Colorado Energy Office, Colorado Independent Energy Association; the staff of the PUC; the Conservation Coalition (including Sierra Club and Natural Resource Defense Council); the International Brotherhood of Electrical Workers Local 111; Interwest Energy Alliance; Southwest Energy Efficiency Project; Western Resource Advocates; and Wyoming Rural Electric Cooperatives.

One of the disagreements involves the schedule for closing the units at Craig. Tri-State plans to close the first unit by the end of 2025, the second unit in September 2028, and then the third unit on New Year's Eve 2029. It proposes to operate the coal units at lower levels during the latter part of the decade as it brings on renewables.

Three of the six alternative scenarios would have the final unit at Craig closed by the end of 2025.

Disagreements are also found in the sequence for closing the Arizona coal plant, Springerville. Tri-State has a contract through 2036 to lease 100% of the power generated by a 420-megawatt unit at the coal plant. Tri-State says it would be costly to escape that commitment quickly, although the details are blacked out in the public version of the filing.

Another point of contention is Laramie River Station in Wyoming. Tri-State is a partial owner as a result of its ownership in the Missouri River Power Project but has not had discussions with its partners. “Therefore, the costs are assumed to be immitigable in the modeling,” Tri-State says, using a word that means unable to be made less severe or serious.

In general, Tri-State wants to go slower in shifting off its coal plants. To go quicker means adding more natural-gas fired generation more rapidly, and the time for permitting such plants remains an unknown.

Several times, Tri-State says it wants to give time for other technologies to become more competitive. In other words, don’t rush the solutions. At least in its rebuttal document filed on Sept. 28, it does not describe those other technologies. It is known to be interested in both hydrogen storage and advanced nuclear technology—as, for that matter, most other utilities also are.

The filing also contains information about how it intends to assist the Craig community as it exits coal. The filings also emphasize the importance of a regional transportation organization, or RTO, in decarbonizing electricity while ensuring reliability and lower costs.

A separate statement posted by Tri-State on its website notes that Tri-State is actually lowering rates, with a 2% reduction in March to be followed by another 2% in 2022.

Eric Frankowski, executive director of the [Western Clean Energy Campaign](#), a group premised in a more rapid retreat from fossil fuels by utilities, found the latest filing by Tri-State to be lacking critical information. “Where is the explanation for why they want to operate Craig (unit 3) until 2029 while the modeling shows it would be better for customers to operate until only 2025. I don’t see that explanation in there.”

Also absent is any exploration of what it would take to close the coal plants in Arizona and Wyoming.

“With the exception of some new gas being delayed, (Tri-State’s revised preferred alternative) doesn’t do a whole lot to move the needle on retiring coal early and getting customers away from one of its most expensive generating sources.”

The other stakeholders have until November to respond to Tri-State’s latest filing. This is the way of the long, drawn-out process for creating the electrical grid of the future.

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Words veer to sharp edges in the dispute between Tri-State and its biggest co-op

by Allen Best

Anger, and not just disagreement, was evident in a flurry of exchanges this week between Tri-State Generation and Transmission and its largest member, United Power.

The dispute at one level is about the formula used by Tri-State for determining how much members must pay if they want to get out of their long-term, all-requirements contracts with Tri-State. The dispute is now before the Federal Energy Regulatory Commission.

A press release distributed by Tri-State on Oct. 6 accused “certain parties, particularly United Power,” of attempting to “hijack” what Tri-State calls customary filings with the Federal Energy Regulatory Commission.

“United Power’s actions questioning the continued importance of long-term, full-requirements power contracts undermine their value and threaten the nation’s generation and transmission cooperative model,” said Duane Highley, chief executive officer of Tri-State.

Asked for comment, Mark Gabriel, United’s chief executive, called the press release “childish and immature.”

“It’s factually incorrect, and that is sad, because I would never believe that misleading people is a good practice,” he added.

This is a messy story. For those unfamiliar with the contours, here is the abridged version:

As Tri-State resisted the shift from coal to renewables, first Kit Carson Electrical Cooperative and then Delta-Montrose Electric left—after first paying exit fees to allow them to leave their all-requirements contracts.

United Power and La Plata Electric, the first and third largest cooperatives, were slower to eye the door and their contracts go longer, to 2050. But when they asked what it would cost to get out of their contracts, Tri-State supplied outlandish figures. In other words, married for life—don’t think about divorce.

To avoid having Colorado regulators oversee this dispute, Tri-State sought jurisdiction from the Federal Energy Regulatory Commission. It says it was for other reasons, because it operates in four states and not just one.

“Childish and immature.”

Mark Gabriel
chief executive
United Power

Tri-State is correct that it needs certainty for resource and other planning. It’s tough to make billion-dollar decisions when you don’t

know whether you will lose a third or more of your business. But whether Tri-State is changing rapidly enough to reflect the changing energy market is the background issue that looms over this dispute about the filings in Washington D.C.

Now—as Gabriel points out—8 electrical cooperatives want to get exit fee numbers—how much it would take to break their contracts—from Tri-State. Not any of them have indicated they want to leave. Rather, they want to get an idea of where they stand with their options.

United is by far the single largest member of those co-ops, alone responsible for 19% of Tri-State’s annual revenues. But the others—including Windsor-based Poudre Valley Electric, Durango-based La Plata and five others in Colorado, Nebraska and New Mexico—together account for 40% of Tri-State’s annual revenues.

The all-requirements contract is a misnomer in that it requires the co-ops to get 95% of their power from Tri-State. But United and other members chafed, and so Tri-State created a somewhat more flexible policy.

Gabriel says United doesn't want out of Tri-State, but it wants Tri-State to change more rapidly and offer even more flexibility. "We have 7,000 solar rooftops, 3,800 EVs and 100 storage batteries in our service territory," he says. United and other distribution cooperatives will be the aggregators of distributed energy resources in the future, and not Tri-State and other G&Ts.

Tri-State officials represent the dispute in a different way.

"Our filings represent our members' collaborative work to ensure that if one member desires to terminate its contract early, it has the flexibility to do so while the other members remain unharmed," said Tim Rabon, chairman of Tri-State's board of directors, in the press release.

"Increased contract flexibility, along with lower wholesale rates, cleaner energy and reduced emissions, are central to delivering value to our members and their rural consumers through our Responsible Energy Plan. But flexibility can't mean that the rest of the members, and ultimately their customers, are left holding the bag," added Rabon, who is from a member electric cooperative in New Mexico.

Protect our Winters peeved with owner of Jackson Hole

Protect our Winters, the winter sports climate organization, had a few words for Jay Kemmerer, owner of Jackson Hole Mountain Resort. The resort has taken aggressive climate change actions such as buying renewable energy to power its lifts.

But Kemmerer recently hosted a fundraiser for U.S. Rep. Marjorie Taylor Greene and U.S. Rep. Jim Jordan. Surely

you've heard of the former, and [as for the latter](#), the Ohio congressman has voted against virtually everything anybody concerned about climate change has supported.

[Writing in WyoFile](#), Save Our Winters executive director Mario Molina says that Kemmerer's fundraiser caused Patagonia to withdraw its merchandise from Jackson Hole Mountain Resort retail outlets.

"While we at Protect our Winters recognize Jackson Hole's investment in things like renewable energy for the resort, we fully support the employees and community members who see financial support of climate-denying, extreme-firing politicians as incongruent with Kemmerer's stated goals."

Wyoming counties scramble to apply for federal stimulus funds for shift from coal

[WyoFile reports](#) that the state of Wyoming has somewhat belatedly joined efforts originating in two Wyoming coal-dependent counties to tap into the federal government's \$3 billion program designed to assist "communities around the country not only rebuild but reimagine their economy for the future."

In Wyoming, that means building futures independent of coal combustion.

In Rock Springs, the Sweetwater County Economic Development Coalition will submit a grant application to assist with developing an industrial park that hopes to cater to manufacturers, including renewable energy components, equipment for agriculture, mining and construction, and also data centers.

In Campbell County, home to much of Wyoming's Powder River coal-mining, the focus is a 250-acre large-industrial and manufacturing park to explore new uses for fossil fuels. It hopes for \$11.3 million in grants.



A study of the old and the new at Pueblo

Completion of the 300-megawatt Bighorn Solar project was celebrated at Pueblo on Oct. 13, although, in fact, the project isn't quite complete. About 75% of the power had been turned on, and the rest will follow by sometime in November. But October is a more assured time for good weather, even if the warmer weather caused organizers of the hilltop celebration to watch what might be slithering underfoot.

The solar panels are located entirely on the land of Evraz, the owner of the steel mill that has been a central feature of Pueblo's economy for 150 years. This is the largest behind-the-meter solar project in the United States. It is likely also the largest single solar project east of the Rocky Mountains.

The location of the ceremony was striking. In the background were the three smokestacks of the Comanche Generating

Station. Two of those units will be retired in the next few years and the third, Colorado's newest coal plant, its stack seen on the right, will retire in 2040, if Xcel persuades regulators that is necessary.

"I feel like I am witnessing the energy transition right in front of me," said Abby Hopper, chief executive of the Solar Energy Industries Association, a national trade group, during her turn at the lectern. And then she added, "This is what policy makes happen, senator," she said, looking at Colorado Sen. Michael Bennet.

Somewhat farther away was the steel mill, including the cranes already in place erecting a new long-rail mill, to create quarter-mile-long rails to be sold to the nation's railroads. That's what this new source of electricity is for.

Evraz was motivated by price, although Skip Herald, who directs North American operations for the London-traded company, also mentioned the reduction of carbon emissions.

Pueblo Mayor Nick Gradisar, who spent three summers working at the steel mill while in college, talked about the desire of

Pueblo to become the renewable energy capital of Colorado—“but maybe the world.”

Wearing black cowboy boots, blue jeans and green sports jacket, Bennet talked about climate change and the effect on Colorado’s most important asset, water.

“This summer was a tough summer for people across Colorado. We are pretty used to seeing the mountains,” he said, Greenhorn Mountain in the background and, farther south, Huajtolla, as the Comanche called Spanish Peaks.

“That’s why a lot of us live here, and this summer there were many days you couldn’t see the mountains. There were also a lot of days you couldn’t go outside, not because of the fires here, but because of the fires in California.”

Bennet was perhaps speaking about himself as he discussed the challenge of recreating energy to avoid burdening later generations with a more difficult climate, in particular with the water resources in Colorado made more vulnerable.

“We only get to be leaders and key influencers for a very short period of our times,” he said.

Look for another, deeper story about this project in a coming issue of Big Pivots.