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Colorado unusual in climate change actions, but not so much in attitudes

by Allen Best

Consider that Colorado legislators last year adopted some of the deepest decarbonization goals in the country. A reflection of a rapid shift of Colorado's electorate?

Not at all, reported Joshua Low of the Yale Program on Climate Change Communication. Low was in metro Denver recently to participate in a panel discussion at the Colorado Water Congress about climate change communication.

Colorado, he said, has attitudes almost exactly in the middle of the nation.

But the middle has been moving. That shift has been observed since 2014 but especially in a six-month span last year. November polling found that 31% of Americans identified themselves as "alarmed" about climate change, an all-time high. That figure has nearly tripled since 2014.

Another 26% identified themselves as "concerned."

Altogether 57% of Americans are alarmed or concerned about climate change. This compares to the 20% who describe themselves as either "doubtful" or "dismissive."

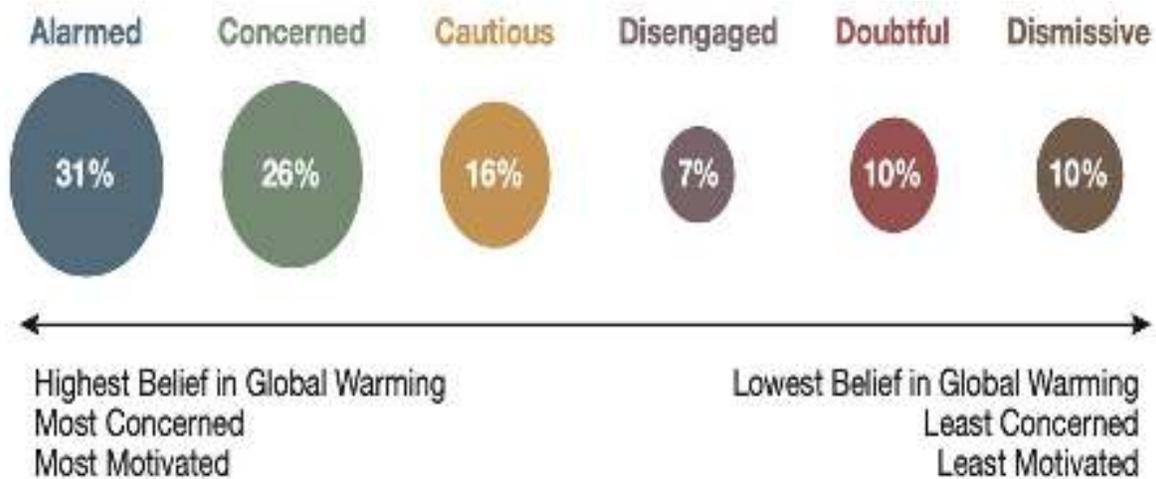
"There are likely several factors that help explain why more Americans believe in global warming and why Americans are more worried about global warming," explained Low in an interview. "One factor is more TV weathercasters are talking about global warming in timely, local ways. They are also hearing about global warming from Pope Francis and other faith community leaders. And they are hearing about it from young people in their lives."



Joshua Low

Yale's polling also reveals a significant gap between those who think global warming is happening, 73% of registered voters, and those who think it is caused mostly by human activities, only 53%. Yale's polling puts Colorado exactly at that national average.

Hawaii, at 61%, leads the country in seeing a human role in warming at 61%, followed by California and Massachusetts at



59%. New Mexico at 54% %, followed by Arizona 52%, Kansas 48%, Utah 47%, and Nebraska 46%.

Oklahoma 42% and Wyoming 41% inhabit a different planet politically.

Liberal Democrats are more likely to see human fingerprints smeared on the warming, 84%, as compared to 25% conservative Republicans.

The statistics go on and on – and should not be, I think, taken as gospel. If you dig through the appendixes, you see the range of error is up to 10%. Some of the studies, though, have been ground-tested with greater application of resources, Colorado being one of the four places where the accuracy of the website-based polling done by the Yale program and George Mason University was ground-truthed with greater application of resources.

Yale’s polling sees broad support for clean energy, within Colorado and across the country.

“It isn’t just progressives from Boulder that support action on climate,” says Low. “In Mesa County, 54% of adults think Congress should do more to address global warming.”

“And elected officials are noticing. Combine the public support for solutions with political leadership and you get policy action,” he said, alluding to Colorado, New

Mexico and other states. “In some places, that political will hasn’t yet materialized.”

There’s strong support from both Democrats and Republicans for incentives to develop clean energy, including support for rebates for purchase of energy efficient vehicles and solar panels. The support falls off somewhat for regulating carbon dioxide as a pollutant. Even on that, though, 59% of Republicans favored regulation.

The agreement breaks down, however, on support for fossil fuels. Republicans very much tend to favor an all-of-the-above approach, but not so Democrats.

You can spend a fascinating half-hour strolling through the [Yale Climate Opinion Maps 2019](#). You can see the country broken down by state, congressional districts, even county levels.

Also on the same subject:

- Polling by the Washington Post showed one of every four teenagers aged 13-17 had some involvement in climate change.

- A Jan. 21 report from the Yale group revealed 69% of registered voters (again, with more support among Democrats than Republicans) in favor of a revenue-neutral carbon tax, but 59% supporting fee-and-dividend. The difference?

Yale’s Seth Rosenthal said the more popular policy reduces taxes whereas the less popular one essentially sends out

"refund" checks. He thinks people are more likely to support a tax cut than redistribution of tax money after the fact. But Low says no data exists yet to show for sure what's really going on.

- Yale's polling finds that global warming has elevated in importance among voters looking toward the 2020 presidential election. It ranked 11th most important issue among voters polled in November compared to 17th just a half-year before. This was among 29 possible issues.

Again, this varies by political affiliation and leanings: for liberal Democrats, it's the third most highly ranked issue but 7th most highly ranked issue for moderate and conservative Democrats. Far less so for conservative Republicans.

- A report from the Pew Research Center in February found that for the first time in the two decades of the Pew survey that a majority of Americans said dealing with climate change should be a top priority for the president and Congress. That's a 14% rise from four years ago.

The New York Times noted in its story — [“Climate Change Rises as a Priority. But it's More Partisan Than Ever”](#) — that nearly two-thirds of Americans ranked protecting the environment as a leading policy priority, which is almost as many as said economic growth should remain a primary focus.

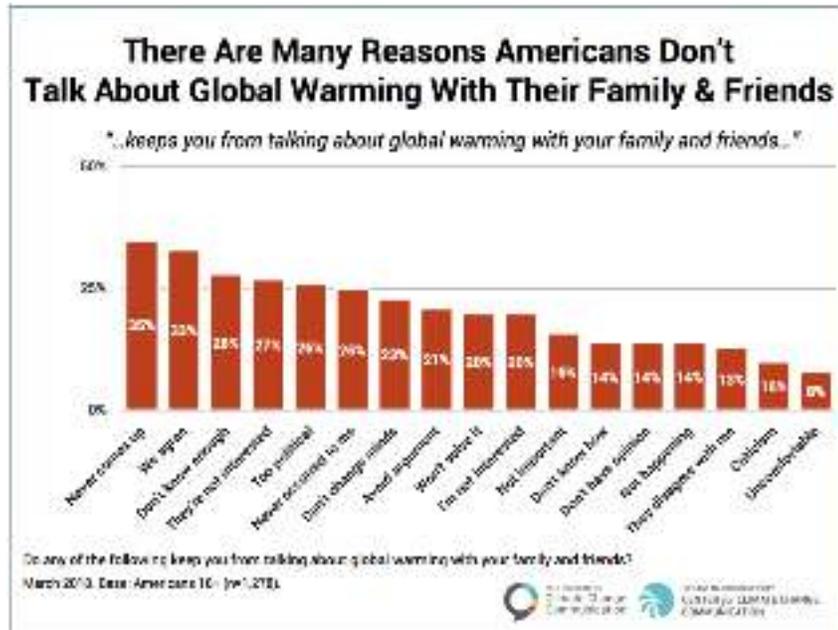
But the surge in climate and environmental concern masks a deep partisan divide:

Republicans and Republican-leaning independents under 40 were much more likely to say the government isn't doing enough to address global

warming or protect the environment, compared with their older counterparts. So were those identifying as female.

- Doug Parsons, who hosts a popular podcast called America Adapts, which is all about adaptation as opposed to mitigation, said at the Water Congress that he has learned in podcasts that people shy away from talking about climate change, because they see it as controversial. It's a more available topic—as demonstrated by Yale's polling—than many realize. Don't tip-toe around the subject, he added, but instead embrace the opportunity for conversation.

- Andy Schultheiss, executive director of the Colorado Water Trust and, from 2009 to 2014, director of Colorado operations for then-U.S. Rep. Jared Polis, said effective messages famously are clear, concise, connecting and, in this case of climate change, can use the device of contrasting: What does this world look like if we don't adapt and mitigate? The environmental community, he said, sometimes gets very frustrated because members talk to one another but not those outside.



A yawn-inducing phrase that gets into a vital matter

by Allen Best

Performance-based regulation is one of those phrases that needs a wordsmith, a branding expert, to make it smile or at least interesting. Yawn. Nap time. Wake me up when this one's over.

But in one indication of how seriously environmental advocates in Colorado take this matter, the Rocky Mountain Institute had three people at a workshop conducted by the Colorado Public Utilities Commission on Feb. 21, while Western Resource Advocates and Colorado Solar and Storage Association both had at least two.

Performance-based regulation—PRB hereafter—gets at the very core of what the state expects of investor-owned utilities. For over a century, there was a compact that gave utilities monopolies but also gave the state authority to regulate to ensure rates and reliability. You know, keep the lights on and the prices affordable. In return, utilities were given an acceptable rate of return on their investments.

Particularly in the last 10 years, this landscape has shifted, not just in Colorado but across the United States. Emissions have become a very big deal, but there are other new twists, too, such as what role utilities will play in transformation of transportation and other sectors of the economy to low-emissions scenario.

Legislation signed into law last May instructed the PUC to investigate “mechanisms that may serve to realign regulation utility operations, expenditures, and investments with public benefit goals, including safety, reliability, cost efficiency,

emission reductions, and expansion of distributed energy resources.”

Note that this is far more expansive than just cost and reliability. The PUC must submit a report to legislators by Nov. 30, 2020,

At the PUC's first workshop, held in a conference room with daylight, unlike the PUC's primary window-less meeting room, organizations shared a diversity of opinions. Bill Mallory, representing AARP, a fixture at PUC and legislative committee hearings, said his organization didn't see need for the PUC to encouraging adoption of infrastructure for electric vehicles to the detriment of the

commission's traditional role of keeping rates reasonable.

On the far end of the bookshelf were the comments of Jake Schlesinger, of the Colorado Solar and Storage, who said “the problem isn't

with the rates in Colorado. The problem is with climate change.” He called it a “global crisis that is of a nature that we as a society have never experienced before.”

But what is the problem that needs to be solved? Frances Koncilja, a PUC commissioner at least for now, posed that question during a cameo appearance.

Ron Binz, a former PUC commissioner now doing business as Public Policy Consulting, recommended a broadened investigation, one not confined to the legislative mandate.

“You might not want to lock yourself into problems to solve. That's locking you in at the wrong end of the telescope.”

The comment by Binz hinted at a broad discussion in coming months. Critics have long emphasized that investment choices made by Xcel may be prejudiced.

The return on investment granted by the PUC is based on capital investments. Those investments have traditionally been very large, as was pointed out by Xcel representative Brooke Trammel. But do they always need to be capital intensive? Can the

Performance-based regulation and the utility of the future

same results be achieved if different incentives are offered? It's a cliché, but maybe it applies: If all you have is hammer, everything looks like a nail.

Keith Hay, representing the Colorado Energy Office, suggested a broader approach. "That is not to say anything is broken, but we have changed the expectations (of utilities)," he said.

Much was said about whether PBRs instituted in Minnesota, Hawaii, and other state provide models for Colorado. Dan Cross-Call of RMI suggested Colorado may want to pick and choose as "there is no monolithic structure that would be right for Colorado."

John Gavan, the PUC commissioner in charge of guiding this process, called in a representative of Delta-Montrose Electric Association, of which he once was a director, to talk about that co-operative's policies regarding wildfire mitigation. There was also talk about cybersecurity. There's a lot that goes into keeping the lights on and what could fall under the umbrella of PBR.

Bill Ritter: shocked by the turn of events in the last few years

Former Colorado Gov. Ritter confided at a recent speech that he's shocked by the turn of events in the last few years.

"We have a president administration that is the most hostile to clean energy and climate change in my lifetime, and that's saying something," he said, pointing to the Bush administration and the role of Vice President Dick Cheney.

But despite the backward look in Washington, the change in the heartland is remarkable. "I'm shocked by this turn of events in the last few years," he said, pointing to the 16 major utilities that have set goals of 80% and 100% greenhouse gas reductions for the next several decades.

Then there's Tri-State. Ritter said that when he was governor, the then-chief executive of Tri-State Generation and Transmission made a point of telling him that Ritter would take coal plants out of his dead, cold hands.

That CEO is gone, succeeded by another who was similarly resistant to change and then, last year, yet another CEO—this one who asked Ritter and his Center for the New Energy Economy to assist in a stakeholder process to chart the wholesale supplier's future. In January Tri-State announced plans to close its coal plants in Colorado and New Mexico by 2030.

I asked Ritter about that stakeholder process. It excluded the member co-ops of Tri-State, at least some of whom thought they should have been at the table.



Bill Ritter

Ritter said that 43 co-ops is too many to get work done. The stakeholder group had 15 members, including representatives of Western Resource Advocates and the Southwest Energy Efficiency Project, a representative of Holy Cross Energy, a co-op that is not a Tri-State member, plus representatives of the energy offices in each of the four states in which Tri-State operates.

That process was triggered by mandates in Colorado and New Mexico. During his time as governor, Ritter was part of elevating renewable portfolio standards for utilities.

"Policies are levers to build out an industry to where there was an economy of scale, and then you saw prices come down in a dramatic way," he said.

Now, he added, "market forces are stronger than the policy levers, but they

would not be if not for the policies that we put in place.”

In the 11 states of the Western electrical grid, there has been no net natural gas increase in capacity as the coal plants have come off line since 2008. Renewables have replaced the coal. Elsewhere in the country, gas provides 75% of the capacity.

Transportation has eclipsed electrical production nationally as the leading source of greenhouse gases. Achieving transportation reductions will be difficult without national policy, he said. A cap-and-trade system won't help in transportation, which is why California's low-carbon fuel standard was needed. "If you put a \$50 price on carbon, you are only changing the price of the gas at the pump by 40 cents."

And then there was the question of why just 50% by 2030?

"I am a believer in some level of incrementalism," he said. "To do 50% by 2030 is a really good step. To try to set a goal for 2050, there's just too much unknown," he said.

More resources for the PUC & air commission?

Colorado legislators last year gave the state's Public Utilities Commission and the Air Quality Control Commission a long list of must-do's. Do those agencies have the resources they need?

At a town hall meeting in Boulder on Feb. 23, House Speaker K.C. Becker suggested the PUC may have to get its work done with existing resources. She didn't say no, but she did point out that the PUC is funded by fees paid by utilities. To enlarge the budget would require dipping into the already hard-squeezed general fund budget.

Senate Majority Leader Stephen Fenberg said he has been working on a bill that would aid state agencies charged with regulating emissions from the oil and gas industry. Talking with scientists and others,

he realized that "they don't actually have adequate resources to do some of the things we have asked them to do," he said. "So I have been working on what we can do to solve that problem."

He has in mind a new pot of money for data gathering to ensure the "regulatory bodies are creating regulations based on the best possible available science."

A clarification and a correction about Holy Cross's steps forward

Dear editor,

Thank you for highlighting the current Holy Cross Energy (HCE) request for proposal. There are a couple of things from this story that I would like to clarify with you and your readers.

The HCE goal for reaching 70% renewable energy is 2030. Bryan Hannegan, HCE President & CEO, was quoted last year as saying that we hoped to reach our goal by the end of 2021. To that end, we have signed an agreement to purchase 100MW of power from a wind farm that will be built southeast of Denver, but it makes us uncomfortable to repeat the 2021 completion date as fact until the wind farm is built and producing energy. There are just too many things out of our control when it comes to construction. Therefore, our goal remains 70% by 2030.

HCE does have an emission reduction goal similar to Xcel Energy's goal in our [Seventy70Thirty](#) plan. We will reduce our greenhouse gas emissions associated with our power supply by 70% from 2014 levels by 2030.

The Pitkin County Solar Array will be a 5 megawatts array rather than 30 megawatts.

Thank you again for the coverage.

Jenna Weatherred
Holy Cross Energy
VP, Member & Community Relations



The Colorado River has not carried water to the Sea of Cortez since the 1990s. Above, the river bed near San Luis Rio Colorado, in the Mexican state of Sonora, in February 2017.

Facts be damned, they intended to divvy up the river as they saw fit

Review/photos by Allen Best

Driving in the Mojave Desert of California, about 100 miles east of San Diego, you can see a horizontal black line high on the side of a white-washed silo used to store granulated sugar. The black line defines sea level. The nearby town of El Centro is 42 feet below sea level, as is much of the surrounding Imperial Valley, one of the nation's most productive agricultural areas.

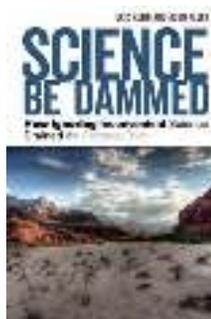
Vegetables, fruit and other crops flourish in the Imperial Valley's year-round

growing season, watered by diversions from the nearby Colorado River. The river was first diverted to the desert's baked rich soils in 1901. Within just three years 75,000 acres were under cultivation, the brown expanses turned green. Then, in 1904, a river swollen with runoff from melted snow in the river's Rocky Mountain headwaters stormed out of

its bed, as it has done through the ages, and poured into the Imperial Valley for 16 months, creating the Salton Sea.

Agrarian ambitions could not abide this unruliness. California wanted a dam to hold back the spring floods, to "conserve" the water, in the language of the era, to put it to human use. Los

Angeles wanted the hydroelectric power that could be generated by a giant dam and





California's imperial Valley provides plenty of leafy green (and purple) for the nation's salad bowls.

a new source of water, too. For this giant dam, California needed the treasury of the federal government. And for Congress to approve funding, it needed agreement among at least six of the seven states that share the 242,000 square miles of the Colorado River Basin about how the river's waters would be divided. That's what caused delegates from the seven states to a lodge near Santa Fe in November 1922 to negotiate the Colorado River Compact.

The compact negotiated under the supervision of Herbert Hoover, then the secretary of commerce, allocated 7.5 million acre-feet to the lower basin states, primarily California and Arizona. It also gave a splash of 300,000 acre-feet for Nevada, as Las Vegas then was a railroad-siding town of just 2,300 people. The compact also assured the upper basin states of Colorado, Wyoming, Utah, and New Mexico—those above the Grand Canyon—of 7.5 million acre-feet, despite the fact that nearly all the water originated in those states. They didn't

need the water then. Besides, it was assumed the river would deliver another 5 or 6 million acre-feet on average to Mexico's claims and cover evaporative losses with a still sizable pail of water to be apportioned by some future agreement.

With this agreement, a political path was cleared for Congress to approve funding for the dam near Las Vegas, later named Hoover, and another dam downstream to aid the farmers of the Imperial Valley. And so began the federally sponsored dam-building spree in the Southwest that continued through much of the 20th century.

But Hoover and the negotiators were wrong, terribly wrong, in assuming the river would deliver an average 20 million to 22 million-acre feet. In "Science Be Damned: How Ignoring Inconvenient Science Drained the Colorado River," Eric Kuhn and John Fleck deliver withering proof that ample evidence existed even in 1922 of long-term flows that would be less than assumed by



The Colorado River at Granby, Colorado.

the compact's allocations. That evidence had strengthened substantially when Congress ratified the river compact in 1929. But, they say, the self-deception, continued for many decades as water managers "avoided" asking important questions and "ignored" contrary evidence and even "conjured" a surplus when, in fact, none existed. This faulty premise has been "deeply embedded in decisions that shaped the modern West."

Marc Reisner's 1986 book, "Cadillac Desert," was celebrated for its stinging indictment of the federal government and its Western allies in harnessing the Colorado and other Western rivers. But the late Reisner excused the delegates in Santa Fe for only assuming that water flows in the early 20th century would be the norm. They just didn't have a longer record, he said. A later history, the 2009 revision by William Hundley of his authoritative "Water and the West," acknowledged that there had been more information available to Hoover and the state delegates.

Kuhn, the former general manager of a water district that encompasses much of the

river's headwaters in Colorado, and Fleck, a former journalist in Albuquerque, drive deeper. They charge "a lack of humility in the face of their ignorance" of the compact negotiators in Santa Fe. "They didn't want to ask too many questions about whether the number was right," they say of a report that estimated 21 million to 22 million acre-feet. "They had conjured up a larger Colorado River than nature could actually provide."

This wishful thinking continued until the 1960s when, in the the final big carveout, this one for the Center Arizona Project, talk had begun about ways to supplement the Colorado River's native flows. But Henry "Scoop" Jackson, the senator from Washington, would not abide any talk of diverting the Columbia River. Soon after the Arizona project was completed in 1993, delivering water to Phoenix, Tucson, and the farms between. Since then, the Colorado River has almost entirely ceased to flow into the arm of the Pacific Ocean called the Sea of Cortez. But even by 1981, it was, as the late Philip Fradkin described it in his book published that year, "A River No More."



Metro Phoenix from 1,000 or 2,000 feet.

Hoover Dam and Lake Mead in mid-December.

Ernest LaRue emerges as the star witness in this story of science ignored. A hydrologist working for the U.S. Geological Survey, he had completed a report in 1916 that Kuhn and Fleck say was a reasonably accurate forecast. It balanced drought in the 19th century against the big water years of the early 20th.

Arthur Powell Davis, the nephew of the famed river explorer John Wesley Powell, and then director of the Reclamation Service, the forerunner of the similarly named agency today, had a vision for massive irrigation. That vision had no room for more modest flows.

In 1925, before Congress approved Hoover Dam, another report had been delivered. It, too, delivered “hydrologic reality to bear on the dreams of the boosters,” say Kuhn and Fleck. And it, too, was ignored.

One measure of the gap between projected flows and the reality can be found



in the gauging station at Lee Ferry, the site just upstream of the Grand Canyon that serves as the legal divide between the upper and lower basins. There, the Colorado River under natural flows—diversions acknowledged in the accounting—has gained 90% of its water, two-thirds of it from the deep snows of Colorado. Those negotiating the compact assumed flows at Lee Ferry of 17.5 million acre-feet. The drought of the 1930s caused the states to reduce the assumption to 16.27 million acre-feet. In fact, flows as of 2016 after 110 years of measurements showed an average of only 14.8 million acre-feet per year.



The fallacy of the assumption was plainly evident in December when water managers from the Colorado River Basin met in Las Vegas for their annual meeting. Together their agencies deliver water from the Colorado to 40 million people, the majority outside the basin itself, from San Diego to Denver, Albuquerque to Los Angeles. At nearby Hoover Dam, a giant band of mineralized white rock marked the decline of Lake Mead, then 60% empty.

The primary problem has been called the “structural deficit,” the various agreements authorizing more and larger straws in the river than the river was able to deliver. It would be worse if the upper basin states, instead of using 4 to 4.5 million acre-feet per year, had used their full allocations of 7.5 million acre-feet.

Efforts have begun to reconcile public policies with science. Under the supervision of the federal Department of Interior, the seven basin states in 2019 adopted plans that gently squeeze water use, first and most concretely in Arizona but in other states also if levels in Mead and its upper-basin sibling, Lake Powell, continue to drop. Nobody seriously thinks this plan goes far enough. In another year negotiating will

begin for deeper cuts due for adoption in 2026.

“Science be Dammed” delivers a powerful corrective to the unjustified optimism about flows. Even the plan adopted in 2019 bears the title of “drought,” which generally means a prolonged period of abnormally low rainfall (or snowfall). If drought is a big word, several studies have concluded that heat, not drought, as traditionally understood, explains roughly half the reduced flows in the 21st century. It will likely worsen. “The best science of the first decades of the twenty-first century suggests we don’t know how far below us the floor lies,” says Kuhn and Fleck.

The authors chose not to explore the obvious parallels between the willful ignorance of science a century ago with the deliberate blindness today of many public officials about the mounting risks posed by greenhouse gas emissions. But the comparison is obvious, best captured in their observation that water flows were overstated “because it suited the politics of the moment.” Today’s “politics of the moment” will have their payback, too.

Tension in transition as legislators hear bill to end coal exemptions

At the Colorado Capitol last Friday, a bill was passed in the Senate that seeks to accelerate the adoption of **electric vehicles**.

Current law restricts car sales to dealers. The proposal would allow direct sales by manufacturers not only including Tesla, but also a new wave of EV-makers such as Rivian. It was approved with near unanimity.

But another bill was approved in a Senate committee on a 3-2 party-line vote after lengthy testimony in opposition from employees of coal companies. The bill proposes to eliminate certain exemptions for the **severance tax on coal extraction** that have existed since 1977. Bill sponsors propose to instead allocate the money primarily to extend tax credits for **community solar farms** and, with what is left, for the new **Office of Just Transition**.

Legislators created the office last year, but it has no real money nor are solutions assumed. Outreach has begun in coal-dependent communities. Several meetings will be held in Craig and Hayden this week as those communities consider about how to transition once the plants and the mines are gone. Help is assumed by both local communities and the state, but it's a very complex conversation involving property taxes and many other things. There are also very real human emotions. Some people see

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the plant and mine closures as a rejection of their life decisions. It's money, but it's also personal.

Both were evident in the testimony at the Capitol by employees of the **Twentymile Mine** and other mining operations as well as local governments. Many described it as a tax increase—and one done to favor another energy sector in another part of the state. At least one suggested that carbon dioxide emissions have no consequence.

Senator Ray Scott, a Republican from Grand Junction on the committee, joked that if he voted for a bill that took tax money from Western Colorado to another part of the state, he would have a short life expectancy. But he also challenged the bill's primary sponsor, **Senator Chris Hansen**, about whether he had done adequate outreach to the stakeholders. Hansen, a Democrat from East Denver, said he had but also promised to do more.

At a town hall meeting Saturday, Hansen told his constituents that the coal industry has enjoyed a half-billion tax subsidy since the severance tax exemption was given in 1977. He drew applause from his audience when he said it was time for that to end.