

BIG PIVOTS

Energy and water transitions in Colorado and beyond

January 28, 2021 Issue No. 28

<https://mountaintownnews.net>

Time now to begin thinking about the end of oil and gas?

by Allen Best

What a difference a decade can make. Consider coal. In 2008 it was riding high, responsible for nearly half of all electrical generation in the United States. Trains from Wyoming's Powder River Basin were like a conveyor belt to other parts of the country, one right after another. A decade later, coal was about a quarter of the pie and it has continued to shrink since.

Might oil and gas operations in Colorado and New Mexico see a similar decline? A new study commissioned by the BlueGreen Alliance documents the economic ascension of the oil and gas sector in the two states during the last 10 to 20 years.

The report, [The Colorado and New Mexico Oil and Gas Workforce: Economic Contributions and Future Options](#), also cites evidence the boom might soon enough turn into a bust. Recent announcements by major

BlueGreen Alliance report documents growth of workforce in Colorado and New Mexico and warns of coming changes

oil companies may suggest what will come. BP announced last August it would cut oil production 50% by 2030 and increase its renewable energy-based electricity production by a factor of 200%. ConocoPhillips last October announced plans to achieve net-zero carbon emission targets by 2050.

If internal-combustion vehicles will not vanish by 2030, manufacturers have started pivoting. General Motors and Volkswagen have made public statements that they plan to rapidly transition significant portions of their manufacturing capabilities to electric power.

Colorado and New Mexico, says the BlueGreen Alliance report, should think carefully about this coming decline of the oil and gas sector.

"We should be as proactive as possible in addressing and mitigating those effects," says Chris Markuson, director of Colorado and state economic transition policy for the BlueGreen Alliance. He described the need for "really thinking structurally about the mechanism that the government can provide to protect workers in an ever-changing economy."

The [BlueGreen Alliance website](#) describes itself as uniting "America's largest

labor unions and its most influential environmental organization. Co-chairs of the [board of directors](#) are Michael Brune, executive director of the Sierra Club, and Thomas Conway, international president of the United Steelworkers. The steel-workers union and the United Association of Plumbers and Pipefitters includes members engaged in the fossil fuel sectors of Colorado and New Mexico.

“Colorado’s clean economy is growing, and as demand for fossil fuels drops we need to be ready to help out workers and communities that will be impacted,” said Dennis Dougherty, the executive director of the Colorado AFL-CIO. “With the right economic investment and community engagement, we can make sure that workers and communities are protected.”

The analysis performed by Ben Webster, a PH.D. economist with the Environment and Natural Resources Policy program at the University of Colorado-Boulder, describes a 41% growth in oil and gas workforce in Colorado from 2010 to 2019, a time when improved technologies allowed exploitation of shale formations in the Wattenberg field along the northern Front Range.

In New Mexico, the growth of the oil and gas workforce was even greater, 64%, largely the result of the success of the Permian Basin that overlaps Texas and New Mexico.

For all this growth, the oil and gas sector jobs as of 2019 represented just 1.2% of all jobs in Colorado. But those jobs paid well. Total earnings of oil and gas workers in the state’s economy was 2.4%. In other words, oil and gas sector employees had income double the state average.

New Mexico’s numbers look somewhat the same. In 2019, oil and gas workers represented 3.4% of the total New Mexico workforce and captured 5.8% of total earnings. This outsized effect was consistent through the prior decade.

General Motors to be out of gas & diesel by 2035

General Motors announced today it has set a 2035 target date for phasing out gasoline- and diesel-powered vehicles from its showrooms globally.

The Wall Street Journal points out that it’s the first timeline identified by a major automaker for transitioning to a fully electric lineup.

Vehicles that run on fossil fuels account for roughly 98% of GM’s sales today and all of its profits.

As in most industries, the pay ranged substantially. The highest earners were in the oil and gas extraction, where average income in 2019 was almost \$190,000. The lowest earners in Colorado in 2019 were those who manufacture equipment or work in machinery, where the average income was almost \$70,000.

The income differential in New Mexico was less than in Colorado. Webster speculated that this is because Colorado has headquarters for oil and gas companies, and hence pay for the executives will be attributed to Colorado. Those corporate headquarters would also explain why Denver, with perhaps not a single drilling pad, was the second largest among Colorado counties in terms of oil-and-gas sector workers.

These are direct jobs. There are indirect jobs, too. In Colorado, the cumulative loss of the various sectors, direct and indirect, would be nearly 138,000. “This is the equivalent of 5% of the entire Colorado workforce losing their jobs,” Webster writes in the report.

In New Mexico, he says, this cumulative effect of direct, indirect, and induced jobs would be responsible for 13% of the state’s workforce losing their jobs.

Between the two states, nearly 250,000 jobs could be lost in coming decades.

Reading these numbers, you might conclude that both states need to alter policies to remove restraints on drilling. Some people would surely like that. In some parts of Colorado, you can almost routinely find signs that ask rhetorically “Why does Polis hate oil and gas,” a reference to the Colorado governor elected in 2018.

Both Colorado and New Mexico have more nuanced approaches to oil and gas. Polis, for example, won applause at the Colorado Oil and Gas Association summer conference in 2018 when he said he opposed a proposed ballot measure the industry found unnecessarily limiting.

There is a growing call to end hydrocarbon extraction. The group 350.org Colorado issued a press release Wednesday calling for Colorado to phase out oil and gas operations in 10 years.

Greenhouse gas emissions from the oil-and-gas sector drive the call. 350.org and allied groups recently issued a report, *Avoiding a Roadmap to Climate Catastrophe*, that found the oil and gas sector is responsible for 70% of Colorado’s greenhouse gas emissions. The state estimates the sector is responsible for 17.3%.

“You can’t frack your way to climate leadership,” said Jeremy Nichols, the climate and energy director for WildEarth Guardians. “If Gov. Polis is serious about climate action, he needs to enact policies that wind down and ultimately phase out oil and gas production in Colorado.” The Sierra Club was also among the signatories of the letter sent to Polis.

The BlueGreen Alliance was not a signatory. It supports a transition to a clean-energy economy, but advocates protection of the interests of workers in this transition. “Oil and gas job losses must be substituted



Signs such as this are relatively commonplace in the oil fields of northeastern Colorado.

with jobs that have similar economic value,” the report says.

Transitioning will be more easily done in some places than others. Weld County—Greeley is its county seat, but it also includes Fort Lupton and other towns—is Colorado’s poster child of a fossil fuel-dependent economy.

Somewhat predictably, the BlueGreen report recommends economic diversification of local, county, and state economies. It also calls for modification of federal aid packages to workers impacted by covid. There is no doubt that the oil and gas sector workers were affected, as evident in the giant losses of the oil companies in 2020.

The report urges several actions, among them close study of the Just Transition report to Colorado legislators completed in December. Among the recommendations is authorization and funding of an energy transition workforce relocation program.

Of course, Colorado legislators haven’t yet figured out how to fund efforts to assist coal mine and coal plant workers whose jobs will be lost during the decade.

But this report does signal the interest of labor and environmental communities to begin having a conversation about what happens next.

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The Poudre River west of Fort Collins on the cusp of winter 2020-2021.

Has the Colorado River gotten too much attention?

by Allen Best

Jeff Lukas calls the Colorado the “charismatic megafauna of Western rivers.”

This riverine equivalent of grizzly bears, bald eagles, and humpback whales gets lots of attention, including national attention.

Some of that attention is deserved. It has the nation’s two largest reservoirs, among the nation’s tallest dams, and many of the most jaw-dropping canyons and eye-riveting national parks in the country. It



Jeff Lukas

also has 40 million to 50 million people in Colorado and six other southwestern states, plus Mexico, who depend upon its water, and a history of tensions that have at times verged on the political equivalent of fist-fights.

Just the same, Lukas admits to some crankiness about all the attention lavished on the Colorado River—including his own. It is not the only river in the West. Other rivers, including those in the state of Colorado, have problems and attributes, too. They should, he says, get more time on stage. These other rivers, too, do an awful lot of heavy lifting.

Lukas recently became a water consultant after 11 years at the CU Boulder-based Western Water Assessment (WWA), a program that works with water decision-makers across Colorado, Utah, and Wyoming, along with other research institutions. Before that he was a



The Platte River plods through downtown Denver, a small workhorse with a big load. Below, a woman jogs along the river near the intersection of rail and highways. Photo/Allen Best

dendrochronologist, an analyst of the rings found in the bores extracted from trees to understand past growth and hence weather and climates. He calls himself a geographer at heart.

If he has never rafted the Colorado River's great canyons, Lukas knows the river basin very well. After all, he was the co-lead author on a recently-released 500-page synthesis report—essentially, a book—called “Colorado River Basin Climate and Hydrology: State of the Science.” Brad Udall, a former colleague of Lukas's at Western Water Assessment, called it the “most comprehensive scientific report ever produced about the Southwest's iconic river.”

Even before climate change began to intrude into the hydrology of the river, as Udall and other climate scientists have now documented, the Colorado River was tasked to be all that everybody wanted it to be. It's unlike the Mississippi, dumping vast



amounts of water into the Gulf of Mexico. The Colorado is a much smaller river and, since the 1990s, has almost never delivered water to the Sea of Cortez, an arm of the Pacific Ocean. That is part of the river's drama.

Other river basins have drama, too. The rivers may not be as long. Their canyons may not be quite as absorbing. The challenges, though, aren't all that different.

The Colorado River Basin "doesn't have as many unique challenges as we've been led to believe," says Lukas. "It gets too much attention. It leads to a biased view of Western water issues, at least from a national perspective. Most other rivers do not get examined in the same way, either by researchers or the media."

A case in point is the river book shelf. Every year a new book seems to come out about the Colorado River. The South Platte River? Not so much. There's Ellen Wohl's body of work, including "Virtual Rivers" and "Wide Rivers Crossed," Tershia d'Elgin's memoir about her father, "The Man Who Thought He Owned Water," and "Confluence: The story of Greeley Water," one of several books by former Colorado Supreme Court Justice Greg Hobbs. The shelf is short for books about these other rivers.

The South Platte is in many ways Colorado's most important river. It arises along the Continental Divide in Colorado, near the town of Fairplay, traveling south before circling around for descent through the foothills to the Great Plains. If you've flown from Phoenix to Denver, you have hewed to some of this route as the plane glides down toward landing. Continuing north before veering eastward at Greeley, the river is augmented by the Poudre and the Big Thompson, along with Clear Creek, the St. Vrain, and Boulder Creek.



Dylan Wilson on the banks of the Rio Grande near Las Cruces, N.M.

In its journey the South Platte and these tributaries provide water for 4 million of Colorado's 5.8 million residents and some of its most productive farms. As recently as 2015, some 86% of the water in the South Platte gets used by agriculture – sometimes time and again. By some estimates, water from the Platte gets used seven times before the river meekly enters Nebraska, thoroughly tired.

Like the Colorado River, the Platte has problems aplenty. The Colorado has been tamed, but so has the South Platte. The Colorado becomes nothing—literally—shortly after it enters Mexico. The South Platte becomes basically nothing during its journey through Denver.

Context always matters. "You know the saying that all politics is local," says Lukas. "All vulnerability is local."

Even within this one basin, the challenges differ. Consider the consequences of the 2002 drought. Aurora, the strapping suburb on Denver's eastern side, came uncomfortably close to draining its reservoirs. In response, the city tightened up conservation measures but also created a major water-reuse project called Prairie Waters. It reclaims water released after treatment at the Metropolitan Wastewater Treatment Plant after it has flowed for about 20 miles in the river's banks and adjoining aquifers. Near Fort Lupton, the water gets drawn from an aquifer for pumping 34 miles back to Aurora Reservoir.

Denver Water, a much bigger provider, rode out that drought more easily. There were pinches, which it is still trying to address via both conservation but also expansion of Gross Reservoir. But the point is that context matters—and, oh by the way, it's not just the Colorado River struggling to meet all the demands imposed on it.

Making his case even more granular, Lukas points to the needs and vulnerabilities in just one city, Boulder.

"People who live in Gunbarrel (a community jutting out from the city's northeast corner) have a different vulnerability relative to their water supply than do people in the central part of Boulder, because they are served by a different set of raw water sources, treatment plants, and pipelines."

Like the Colorado River, the Platte is a contentious river among the states through which it passes. Actually, there has been contention in nearly every river originating in Colorado.

Consider the Rio Grande, which arises in the San Juan Mountains and flows through the San Luis Valley on its way into New Mexico and eventually the Gulf of Mexico.



The Arkansas River meanders past the ruins of Bent's New Fort near Lamar, in southeastern Colorado. Photo/Allen Best.

New Mexico believes that the river never delivers enough water. From south of that border, flows are carefully monitored.

The Arkansas River Basin has also provoked expensive courtroom showdowns with Kansas. Colorado and Kansas don't even pronounce the name of the river the same, East of Holly, where the river enters the Sunflower State, it becomes the ar-Kansas River. In the Centennial State, it's universally the Ar-kan-saw River.

Sure, the Arkansas and the South Platte both benefit from imported water from the Colorado River Basin. In the case of the Platte, a little more than 33% of the annual flows comes from the various tunnels and ditches that extract water from the Colorado River headwaters. But just because these rivers get help from the Colorado River does not diminish their own unique challenges.

Again, there's the question of how can the co-author of a 500-page report about the Colorado River say that this same river gets too much attention, at least compared to other rivers. Lukas acknowledges he sounds like the pot calling the kettle black.

It is, he says, a matter of balance.

"It would be valuable to have this same sort of science synthesis done for other basins as well," he said.



How the ski industry sees climate change needle moving

by Allen Best

The time of scrubbing federal government websites of “climate change” has ended. Joe Biden made addressing climate change one of the key pillars of his campaign for president. Even with a divided Senate, major legislation accelerating actions to suppress greenhouse gas emissions will likely advance given the growing gravity of the crisis and a handful of senators who have shown they’re willing to buck Majority Leader Mitch McConnell.

“It’s really quite exciting,” says ski area executive Jim MacInnes, chief executive of Michigan’s Crystal Mountain and a high-level student of how to modernize the U.S. electrical grid to allow deeper displacement of fossil fuels by renewable energy. “There are so many great things that can happen.”

Biden can do much with his executive powers. He can appoint personnel to head

This story was written mid-November and published by Ski Area Management in January. It has been updated slightly.

agencies that have an interest in advancing the energy transition, instead of slowing it down. A useful indicator of his commitment was the fact that the transition team for each department, including transportation and agriculture, has a climate change expert.

Recommitting the United States to the Paris Agreement was a given. More important may be recreation of the Clean Power Plan that was scuttled by the Trump administration. A revised plan could be created to avoid legal challenges. The goal would be to create a federal standard for utilities to decarbonize electrical generation

Even using the purchasing power of the federal government can be an important agent for accelerating the shift to non-carbon energy systems.

Grid modernization will get attention. It simply must. Electricity produced by intermittent renewables must be moved around the country more efficiently as utilities seek to shed coal and natural gas generation. A study by the National Renewable Energy Laboratory about how to achieve this was suppressed by the Trump administration. MacInnes says Biden understands the need for improved transmission that overcomes barriers.

“The secret sauce is the grid,” says MacInnes. By moving electrons around to take advantage of geographic and time

diversity, far deeper penetration of renewables can occur and fossil fuel plants can be retired more rapidly.

For a deep dive into what Biden can do with transmission, [see the David Roberts deeper dive from this week at Voltz.](#)

Speaking in November, when the outcome of the Georgia election was still in doubt, Geraldine Link, director of public policy for the National Ski Areas Association, said Biden's climate agenda might be approved in separate pieces instead of a sweeping package

A distinct shift has occurred in just the last two years that she and others from the outdoor industries have detected when lobbying Republicans on Capitol Hill. Climate change is being taken more seriously. The 2020 wildfires in the West and the mounting threat of hurricanes in the Southeast can only have sharpened the acceptance of the need to take action.

Republican moderates may have outsized influence. Think of Mitt Romney, Lisa Murkowski, and Susan Collins. "They are going to have more power and influence because of the razor thin margin in the Senate," says Link. "I see those voices becoming louder, and I think they are willing to speak to compromise."

An infrastructure bill will be likely, and that infrastructure could well have a significant green component. To get legislation moved, some compromises might be needed. For example, carbon capture and sequestration received billions of investment dollars during both the Bush and Obama administration, but has not become cost competitive. It might get billions more to get buy-in from fossil-fuel states to move forward on other items.

The temperament of establishment Republicans was revealed in a quote by Sen. John Barrasso of Wyoming, who was expected to chair the Senate Energy Committee has Republicans retained a majority.

"There are ways we can protect our environment without punishing our economy," he told the New York Times in November. "Free market innovation, to government taxation of heavy-handed regulations is the best way to deal with climate change."

This suggests that carbon pricing, even if the tax is returned to the public in the form of a so-called "dividend," remains a long-

shot. The common ground might instead be incentives to fill in the gaps of charging infrastructure for electric vehicles and hence accelerate the demand. one exception is a carbon tax applied to imports.

Applying rates to level the playing field with China could draw support from conservatives.

Brian Fairbank has been in the renewable energy business, even setting up a wind turbine atop his ski areas in Massachusetts. This work of reducing carbon will be necessary to "make it easier for our grandkids to live on this planet," he says. Even so, he hopes for caution as Democrats move forward. He wants to see fossil fuels eased out of the picture, not flung.

From Aspen, Auden Schendler sees the ingredients for strong action on climate change because of the need and bipartisan support for stimulus.

"It makes sense to spend that money on clean energy infrastructure because the right knows the fossil fuel system is going away and the jobs are in clean tech and infrastructure," he says. "It makes bipartisan sense to get rid of fossil fuel subsidies—and those industries are weaker than ever, because they are losing money and no longer hold the power they used to. "

If Trump remains a shadow over the nation, he has lost his direct power. That can yield the coalition of Democrats and some Republicans to move the needle significantly.

If a carbon tax remains a long shot, a carbon tax on imported goods is not.

New report says why Comanche 3 a prime candidate for closing

Comanche 3 resumed operations on Jan. 13 after being off-line for much of the last year. It's the newest and biggest coal plant in Colorado—but it shouldn't have a long life, says a new report issued last week by the [Institute for Energy Economics and Financial Analysis](#).

"The unit has broken down so often since it started operating in 2010 that it has been offline for a quarter of its life—extremely poor performance for a relatively new plant," the report written by Seth Feaster says.

"The absence of the 750-megawatt unit and its failure to affect the steady delivery of electricity to customers adds to the argument that Comanche 3 should be shut decades before its planned 2070 closure," he says.

Colorado Public Utilities Commission members last May indicated they planned to investigate that very question. They made it formal in October. The investigation is now underway.

Xcel Energy operates and owns two-thirds of Comanche 3. Two electrical co-operatives, Sedalia-based Intermountain Rural Electric Association and Glenwood Springs-based Holy Cross Energy own the balance. Holy Cross has consigned electricity generated by the plant to Guzman Energy.

Unlike the co-operatives, Xcel is answerable to the PUC. The PUC allows the investor-owned utility to recoup from customers through higher rates the expenses incurred in generating and delivering electricity. Last winter, Xcel wanted to recover \$11.7 million to replace a failed piece of equipment called a finishing superheater. The PUC denied the charge at first, meaning that that owners of the utility



would have to soak up the expense, but then in May allowed Xcel to recover the cost in the form of rates on customers. .

The costs of the failures of the last year—first in January and then after brief operations in late spring, again into 2021—have not been reported.

Xcel in 2017 and 2018 became national news and a beacon for the clean-energy transition when the company rapidly began to pivot toward clean energy. It announced it would close the two older units at Comanche, which together total 660 megawatts of generating capacity, by late 2022 and late 2025. The lost generation will be replaced with wind, solar, and a small amount of natural gas, all this backed up with 275 megawatts of battery storage.

Xcel continues to pivot, announcing additional closures earlier this month of the two coal-burning units at Hayden. That will leave just two coal plants in Colorado operating in Colorado beyond 2030, according to current schedules: Comanche 3 and the 505-megawatt Pawnee plant near Brush. Xcel exclusively owns Pawnee.

In March, Xcel may fully play its cards. The IEEFA report notes a November presentation to the Edison Electric Institute

that a March 31 filing with the PUC can be expected to “address remaining coal units in Colorado.”

A significant problem for Xcel is the remaining debt on these plants.

What the IEEFA fails to mention is the concept of securitization, a financial device approved by Colorado legislators that would allow Xcel Energy to use long-term financing backed by the state to close plants early. State Sen. Chris Hansen, the architect of the securitization clause in the law passed in 2019, says the tool absolutely could help Xcel make the pivot from either or both of these coal plants.

Gleanings

On creating building codes

Testimony of Colorado Gov. Jared Polis was cited in an op/ed about building codes [published in the New York Times this week](#).

The essay, by Justin Gillis, formerly a climate change reporter for the Times, built the case for unhealthy influence over updating of the building codes created by the **International Code Council**. The codes produced by the council are the basis for those adopted by most state and local governments. A 2019 Colorado law required that local jurisdictions use one of the three most recent updates.

This year’s update delivers a 10% increase in efficiency requirements after stalled progress for much of the last decade. “Compared to the 1980s, buildings going up under the new code will be roughly 50%



more efficient, showing what kind of progress is possible.”

There’s a question about whether the builders have undue influences over creation of the codes. Gillis suggests lack of transparency—and notes the objection of Polis.

“By removing the state and local government voices,” **Polis wrote in a letter** to the group on Dec. 22, “the public -interest purpose of the code development process will be substantially weakened.”

Fracking scrutiny in New Mexico

New Mexico’s latest state climate impact report found that oil-and-gas industry accounts for **53% of the state’s greenhouse gas emissions**.

The state Oil Conservation Division is considering methane rules that would ban routine flaring and venting of natural gas, [reports the Albuquerque Journal](#).

The story also focused on water use in New Mexico by the drilling industry. Hydraulic fracturing, or fracking, has made southeast New Mexico part of one of the most lucrative and productive oil basins in the world.

Several bills have already been introduced into the New Mexico Legislature this winter. Another would place a **four-year moratorium on new drilling permits**. One would **prohibit any freshwater use** for fracking.

Biden’s impact on Wyoming

President Joe Biden signed an order on Wednesday extending a **moratorium on new leases for oil and gas operators** drilling on federal lands.

“The United States and the world face a *profound climate crisis*,” the order stated. “We have a narrow moment to pursue action at home and abroad in order to avoid the most catastrophic impacts of that crisis and to seize the opportunity that tackling climate change presents.”

What will be the impact on Wyoming. Writing in the [Casper Star-Tribune](#), energy writer Camille Erickson reported that 51% of oil production and 92% of natural gas production in Wyoming comes from federal mineral leases, compared to 10% overall on federal lands nationally.

Operators with existing federal leases will still be able to use hydraulic fracturing to extract oil and natural gas. Drilling on private land can continue. Depending upon how long the moratorium continues, drilling will likely decline over time in Wyoming, a state that has become heavily dependent upon revenues from the oil and gas industry as revenues from coal decline. But during the latter part of the Trump presidency, operators snagged leases, so the impact won't be immediate.

About half the \$438 million from lease sales in Wyoming by the Bureau of Land Management in the last four years has been returned to Wyoming.

In 2019, the oil and gas industry says it provided \$1.67 billion to state and local governments. The largest share, \$740 million, was to K-12 education.

Price of cobalt jumps

The [Wall Street Journal reports](#) a **20% rise in the price of cobalt** since the beginning of the year, showing how the rush to build more electric vehicles is stressing global supply chains. Energy-dense cobalt is used to stabilize batteries by protecting the battery's cathode from corrosion that can lead to fire.

A majority of the world's cobalt is mined in the Democratic Republic of the Congo and carried overland to South Africa, where it is

shipped from a port to China, before the material goes to battery makers. That means the **supply chain has several chokepoints** that are vulnerable to disruption.

Electric delivery vehicles

Makers of electric vans have a stronger business case than most, reports the [Wall Street Journal](#). The evidence? **Rivian Automotive raised \$2.65 billion** to a \$27.6 billion valuation fund its rollout of EVs, including a delivery vehicle for e-commerce giant Amazon.com, which holds a stake in the startup.

General Motors said it was creating a new company, BrightDrop, to focus on selling EVs to the delivery market. It expects to ship 400 units to its launch partner, FedEx, later this year.

The Journal goes on to explain that electric vans are at the **confluence of two big trends: the rise of e-commerce, and vehicle electrification**. UPS, DHL, and FedEx have all committed to reducing their carbon emission and need electric vehicles.

"There is financial logic here in addition to environmentalism," the Journal explains. Unlike most people driving passenger cars, delivery vans don't need batteries with the range for longer distances.

Too, says the story, in the *Heard on the Street* section of the Jan. 23-24 issue, the facility with which software can be integrated into the overwhelming electronic systems benefits fleet operators.

"Logistics is a data business. The more tools for cost-efficient routing, driving, loading and the like that manufacturers can offer fleet owners, the more business they will attract."

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How Colorado's new oil and gas rules will change the oil patch

by Allen Best

Regulations adopted by the Colorado Oil and Gas Conservation Commission in November have created a new playing field for the oil and gas industry.

Extraction of oil and gas now plays second fiddle to protecting public safety, health, welfare, and the environment.

The new rules triggered by a 2019 law, SB-181, reversed this order, detaching the commission from its long-standing statutory mission of fostering extraction. Now, it must regulate.

The law also replaced a part-time, 9-member commission of which 3 members were required to be from the oil and gas industry with a full-time 5-member commission, of which only 1 can be from the industry.

But back to the regulations adopted in November. What will they mean in practice?

Setbacks have received the most attention. Drilling sites must be a minimum of 2,000 feet from homes, schools, and

childcare facilities, although some exemptions can be had, such as if homeowners say they're just fine with closer proximity.

This means that instead of a buffer of approximately one city block, the minimum buffer must now be four city blocks.

Michael Freeman, an attorney with Earthjustice, a non-profit environmental law firm, said on a recent webinar that the recasting was informed by the testimony commissioners heard during the two or three months of hearings. Many testified to the growing body of literature detailing the public health impacts of oil and gas development and the risk of proximity to drilling sites.

Among the most significant evidence was a 2019 study by the Colorado Department of Public Health & Environment, he said, but many ordinary people

also testified about what it was like to live next to a well pad with the resulting noise and many other impacts.

This evidence, said Freeman, was "very compelling and, frankly, difficult for the commission to ignore."

Protections were also extended to reduce impacts to wildlife in its many and various forms. Heeding the recommendation of Western Resource Advocates, the

Picture emerging of changed regulatory landscape as result of landmark 2019 law

commission adopted rules that require consultation with Colorado Parks and Wildlife about impacts to species in the state's listed threatened and endangered species. A stakeholder group is to be established to consider setbacks for all Colorado waters.

The commission also established and expanded "no occupancy" buffers for certain streams containing native and sport fish and other species, including boreal toads.

This new attention to wildlife comes in the framework of a broader perspective, both in spatial considerations and in cumulative impacts.

"The commissioners recognized landscape-level planning as the best approach, and avoidance (not 'minimizing' or 'mitigation') as the best and most protective policy," says Mike Chiropolos, an attorney in Boulder who represents various parties in the Wildlife and Biological Resources Coalition.

"The Biological Resources Working Group will convene in 2021 to discuss defining and protecting those resources, including the use of Colorado Natural Heritage Program mapping and expertise to contribute to informed, science-based protective decisions," Chiropolos wrote in an e-mail.

Venting and flaring are also addressed by the new regulations.

"The prohibition of routine venting and flaring makes Colorado a national leader on this issue," says Freeman. Colorado follows only Alaska in these tightened regulations.

Routine flaring is the practice of regularly burning excess gas, mostly methane, in oil and gas production and processing. It's been done as long as oil drilling has occurred. This is a major source of greenhouse gas emissions.

Venting is releasing excess gas—methane—without burning it. Methane has far more power to trap heat as compared to carbon dioxide. Methane, however, breaks

down after 12 years, whereas carbon dioxide can remain in the atmosphere for hundreds of years.

[Sightline Institute explains](#) that scientists therefore use an equivalence called global warming potential. It's a way of trying to create a yardstick for measuring the heat-trapping potential of the two gases given that they have such different lifetimes. Over a 20-year span, methane has 86 times the



heat-trapping property of carbon dioxide, according to the Intergovernmental Panel on Climate Change.

Colorado in 2014 adopted nationally precedent-setting measures designed to reduce leaks and accidental releases that were then considered the most advanced in the

country. Those regulations set new thresholds for leaks, required more frequent inspections, and committed operators to more rapid Leak Detection and Repair (LDAR), as the Rocky Mountain Institute explained [in a blog posted Nov. 25](#).

Non-routine, emergency flaring will continue, but these practices less concern RMI as long as they involve small flared gas volumes that are intermittent and occur in short durations.

In several fields in Colorado, natural gas is a byproduct of the extraction of oil. The new regulations will force oil and gas operators to figure out a way to capture natural gas released in conjunction with oil drilling, instead of routine venting or flaring. This regulation applies to tanks, controllers, and shut-in wells,

Flaring will still be allowed at new wells for only 24 hours. The practice is not as extensive as in the Williston Basin of North



A pumping jack surrounded by housing at Dacona, Colo.

Dakota and Montana or the Permian Basin of Texas and New Mexico, said Freeman. Photos from outer space show the Williston Basin being lit up like New York City.

However, state records showed that flaring was routine in North Park. The regulations will require operators to figure out how to avoid wasting the natural gas.

The oil and gas commission has not estimated the reduction of greenhouse gas emissions from this new ban on routine flaring at established oil fields. That was not a directive in the law revamping the commission.

The final decarbonization roadmap released on Jan. 14 shows calls for rulemaking by the Air Quality Control Commission to achieve methane pollution reductions from the oil and gas industry: at least 33% by 2025 and over 50% by 2030.

Greenhouse gas emissions from all sources, including oil and gas, are under the purview of the Air Quality Control Commission. The AQCC coordinates with the Colorado Oil and Gas Conservation Commission and will take the latter body's recent regulatory action into account when updating the state's greenhouse gas inventory.

The Air Quality Control Division is drafting a proposal that's focused on the big picture and not a particular piece of equipment or process stream.

"We're aiming at the entire production process, from drilling through processing and even transmission, according to a statement from the division. "Our goal is to significantly reduce greenhouse gas emissions from the oil and gas industry, which we know industry can do. We'll do this in consultation with all the appropriate stakeholders—local governments, environmental groups, industry, tribes, disproportionately impacted communities, and the Colorado Oil and Gas Conservation Commission."

The tentative timeline is to put a proposal before the Air Quality Control Commission in September with an eye toward a rulemaking hearing in December.

Local governments will have a more clear and unquestioned role in regulating oil and gas as a result of the 2019 law.

Towns, cities, and counties have greater authority to regulate oil and gas because of the new law. This is upside down from the past. In past years, both Longmont and Fort Collins tried to assert their authority to regulate oil and gas but failed to persuade the Colorado Supreme Court that state laws allowed them to do so. These new regulations clearly give local towns, cities, and counties authority to regulate.



Extraction infrastructure east of Erie, Colo.

Importantly, local jurisdictions can impose more rigorous regulation than the state.

In this way, Boulder County can impose regulations to suit its sensibilities, and Weld County can choose to require no additional restrictions.

For local governments who want to regulate extraction, the sky is the limit, said Matt Lepore, director of the Oil and Gas Conservation Commission from 2012 to 2018, on the webinar sponsored by the Rocky Mountain Mineral Law Center. Now the principal at Insight Energy Law, he represents a coalition of 15 counties and 8 municipalities that are home to about 45% of the state’s active wells.

They cannot create regulations that constitute takings of private property. “That’s a no-no, but it’s a high bar for local governments,” he said. In other words, local governments have far more ability to regulate oil and gas drilling and extraction.

Can local jurisdictions try to have lesser restrictions than those of the state? That seems to be something yet not clear, said Lepore.

Lepore described the rules and the process used to create them as a “bigger tent for everyone.” There were 97 parties to the rulemaking, and they all had an opportunity to participate.

“I think this landed in a good place, but I think there is still some proof in the pudding

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to be seen whether the Oil and Gas Commission and local governments can navigate this together.”

Oil and gas operators also favor the landscape planning that environmental advocates like. The single permit system replaces separate spacing and permitting processes and may include multiple locations and units. This planning requires consideration of current and future land uses. Companies in turn get exclusive right to operate and a 6-year minimum with potential for extension.

Greg Nibert, an attorney for Noble Energy, calls the regulations the “toughest” in the country but ones that will be able to produce “some of the cleanest barrels of oil” and pipes of gas.

The 2019 law was preceded by a decade or more of contention in Colorado about oil and gas drilling. Technological advances, foremost horizontal drilling and hydraulic fracturing, had made the hydrocarbons in shale formations in Colorado, as well as elsewhere, more accessible. The result was a boom in the Wattenberg Field along the northern Front Range.

The overhaul of Colorado’s regulation of oil and gas began in 2007, early in the administration of former Gov. Bill Ritter. David Neslin, now of Davis Graham and Stubbs, directed the Oil and Gas Commission when the first set of rules were introduced—much to the protest of some within the industry.

Protests grew even louder as the drilling shifted from the Piceance Basin on the Western Slope to the more shallow formations north of Denver. During the last decade Colorado experienced dramatic growth both in production and hence drilling along the Northern Front Range but population growth too.

If there were tangible benefits, including increased jobs and tax revenues, there were also concerns about environmental and

public health impacts. This led to a series of ballot measures and the litigation that was capped by passage of SSB 19-181 last year, Lepore said.

Correction:

A story in the Jan. 15 issue of Big Pivots incorrectly stated the intended storage time of a pumped-storage hydro near Craig. It should have said 8 hours.

There were also several relatively minor errors in the profile of Howard Geller. Please see a “perfected” version at [Howard Geller’s energy mission.](#)