

**Coal at Sunset: A Colorado Town in Transition  
Episode 8: “2030”**

**Presented by the Institute for Science & Policy at the Denver Museum of Nature & Science along with House of Pod**

**KRISTAN UHLENBROCK (narration):** This is *Coal at Sunset: A Colorado Town in Transition*. I'm your host, Kristan Uhlenbrock. I'm the director of the Institute for Science & Policy at the Denver Museum of Nature & Science.

This is the eighth and final episode of our series. As I record in late 2021, nearly two years have passed since Tri-State's fateful decision to close its coal plant and coal mines in Craig, Colorado. The power station's three operational units will shut down in 2025, 2027, and 2028, respectively -- even earlier than originally announced. By the end of the decade, burning coal for electricity here will be a thing of the past. What will Craig look like by then? After all, this series is only a snapshot. The transition will take a long time to unfold. We don't know how Craig's story will end. Progress won't be a straight line, but I can share now that I'm hopeful. When I started this series I didn't know what I would find. I met thoughtful, engaged, active members of this community who were starting their businesses and investing their money and time in the region. They believe passionately in their future, even when they disagree with each other. And I believe in this town's resiliency. The end of coal could be downright liberating for Craig.

Many of my questions about the transition have already been answered. But, there still was one thing I wanted to ask many of those we interviewed – what are they hoping for by 2030? What do they want to see their home become next?

I decided to head back to where we started this series: at the Trapper coal mine, just south of town. I climb out on a rocky bluff overlooking the site.

**KRISTAN (on scene):** We are on a higher elevation piece of land. Looking back, we are probably, maybe a half mile it looks like, or so maybe upwards of a mile away from the Craig plant, and probably the main offices of the Trapper mine. We're kind of on a plateau almost because it has been scraped over and flattened for all the heavy trucks and we're getting ready to go look over into a really deep dug out pit where they are currently mining for coal.

**KRISTAN (narration):** In the mine, massive hauler trucks and heavy cranes are still digging away at the bottom of that deep coal seam. But up above, on the far ridge, the landscape doesn't look like a mine at all. Amber-colored grasses and native shrubs cover the hillside. Deer and elk frequently come to graze there. It's almost surreal to see the contrast. The incredible thing? That land where the deer and elk roam was already mined, many years ago. Over the years Trapper has revegetated thousands of acres through a process called reclamation.

**GRAHAM ROBERTS:** We are required by state and federal regulations and law to reclaim our site through reclamation and put it back approximately the way it was before. So the landscape, the surface of the land out here will look very much like it did before we dug the great big old hole.

**KRISTAN (narration):** You may remember Graham Roberts from our very first episode. He's the environmental supervisor here at Trapper, and he spoke about his family's long history at this mine. He'll be overseeing the reclamation process during these final years of operation.

**GRAHAM:** A key piece of that reclamation is salvage and retrieval of topsoil because without topsoil, it's pretty hard to grow things, right. The Earth would look like the moon if we didn't have topsoil. So, we have to save that topsoil where we can. We store it and we put it back in our reclamation process. And then we re-seed all of that, re-vegetation of the site, to put it back into whatever the particular use you might be using. Some mine sites might be used for a shopping mall in the future. In our case here at Trapper, this will all be rangeland for cattle grazing, wildlife, just open space.

**KRISTAN (narration):** Graham marvels at how well the landscape can recover. That it can eventually return to nature

**GRAHAM:** I've spent the majority of my career now here at this site so I know it well and you do, you want to see it succeed. You have a personal responsibility for what's going on out there, if there's issues we address them, we take care of them. We want to make it the most successful site you can, especially for its post mining use.

**KRISTAN (narration):** Graham and I are joined on site by Ginny Brannon. She's the Director of the Colorado's Department of Reclamation, Mining, and Safety. Her job is to ensure that when any coal mine in the state closes, the owner cleans it up. As we drive, she tells us that mine operators didn't always act responsibly in the past.

(trucks rumbling)

**GINNY BRANNON:** When I was born in the 60s, there were no mining laws, so people came in, they made a mess, and they left. There was nothing stopping them from doing whatever they wanted to do. It was truly the Wild West. And so people do confuse, they conflate in their minds, pre law sites with active sites.

**KRISTAN (narration):** She's describing older abandoned mines, where the mine operator just left. Waste was never cleaned up, the holes were never filled back in. They were just desolate moonscapes and ugly reminders of the nearby communities left behind. But that all changed after new federal regulation passed in 1977. Today, Ginny's office requires mine operators like Tri-State to post a multi-million dollar bond up front -- essentially an IOU note that they'll carry out the reclamation when they're finished. At Trapper, the workers have been doing some of that work as they go, reclaiming areas that have already been fully mined. Completing what remains will likely extend well beyond 2030.

**GINNY:** After the mine closes it's a minimum of 10 years, we're going to be regulating that site, we're going to be on that site on a regular basis. We're going to oversee the grading, the seeding, and it's not like once it's re graded and seeded, we say, okay, you know, we'll just hope for the best here, and we leave. No, no, we need to see that those plants take, we need to see them grow, we can see that noxious weeds aren't coming up and we have the right mix that we want for that area and usually for the wildlife in that area.

**KRISTAN (narrator):** Graham is optimistic, given how well the ecosystem has fared in the areas that have already been replanted.

**GRAHAM:** In the 70s there were other surface mines possibly in the early stages of planning and the real fear was that these operations and the power plant and all this activity would drive the wildlife completely away. And what we found in pretty, (laughs) pretty quick turnaround is we started reclaiming the site and opening things up and progressing through our mining sequence here is that was entirely untrue. Entirely untrue. And it's been the same case for all of the mines here in northwest Colorado. The reclamation actually became a magnet. The grazing resource there, that that habitat we're putting back is so appealing, especially to the larger herbivores like deer and elk, that they actually come to it to feed. They use it as wintering grounds, they use it as their calving grounds.

**KRISTAN (narration):** I didn't expect to go to a coal mine and end up talking so much about wildlife, but here we are.

**GRAHAM:** The Colombian sharp tailed grouse, they're a small ground dwelling bird, a little bit smaller than a sage grouse. The seed mix we're putting back the habitat we're re-establishing was ideal for these sharp tailed grouse. And they actually came back to the site, which a lot of people didn't think would happen. Grouse establish what is called a lek, and that is their mating ground. So in the spring, they come to the leks and they dance and prance around to attract a mate, Colombian Sharp-Tailed Grouse have a very animated little dance and unique sounds.

**KRISTAN (narration):** The sound of those birds is unmistakable.

*(Columbian sharp tailed grouse sound)*

**GRAHAM:** They're funny, it would be a slow and then a fast beat is what it would be because they tamp their feet so fast you can hardly catch it on film. And it sounds like a snare drum and then they have a clucking, popping sound they can do and they kind of shuffle their feathers and they just stop after they do that, and they stand there a little bit with themselves all puffed up and wings out and tail up and then they do it again, they do it again, you can actually hear it from miles at times. It's such a commotion when you have 10, 15, 20 birds all together doing this little, this little dance, so they're quite entertaining.

**KRISTAN (narration):** It's heartening to know that the ground we're standing on right now will be taken care of. That wildlife can thrive here. That in 50 years or 500 years, you might never know there was a coal mine here at all. The idea of resiliency, and a path to healing, fits with so much of what we heard during our time in Craig.

Graham will be one of the last to leave Trapper, as he stays on to oversee the reclamation. Most of his colleagues will be gone by then. Eventually, once Ginny's department gives the all-clear, he'll move on too. He's not quite sure what he'll do next. He only knows things will be different by then.

**GRAHAM:** It's nice to know, you know, we have time. People have time to prepare what they want to do. A lot of the guys who are staying on, they're staying here because they want to stay, finish it out. And beyond final production, you know, there's a time period there for the final

closure of the mine, the reclamation process, so it's kind of nice to know that'll continue a little while. But as I said it will be a big change here for our community.

*(transition)*

**KRISTAN (narration):** The power station is one of the very first things we saw when we drove in Craig. I wondered what it will look like in 2030. I suppose it could be demolished and turned into scrap metal. It could just be abandoned. But Tri-State CEO Duane Highley has a more hopeful outcome in mind.

**DUANE HIGHLEY:** When I talk to employees I get, you know, mixed responses. Some of them are really disappointed to not see this future that they've worked multiple generations in. And there's another group that come in really excited and they're like, I don't know what the future is, but I'm excited to be part of it. And we're hoping to provide hope through the new technologies that we're bringing in.

**KRISTAN (narration):** He's talking specifically about hydrogen, the element found at the very top of the periodic table. Hydrogen is a potent conduit for energy, which is why it makes up about 75 percent of the matter in our universe. In chemistry terms, it's the "H" in "H<sub>2</sub>O." And it can be harnessed to create cleaner forms of electricity.

Increasingly, we have the technology to produce hydrogen at scale from a variety of sources like natural gas, biomass, or solar power, just to name a few. Each method has its own pros and cons in terms of cost, feasibility, and net carbon emissions. But when you already have access to water and solar power like the Craig station does, that's a pretty good start.

**DUANE:** That's what we want to explore at Craig and we've filed an application with the Department of Energy, under their request for information on where would be the best place to put a hydrogen demonstration project. So we've submitted the name of the Craig plant for consideration and it has so many things in favor of it. First of all, some of the cleanest water that's readily available, and plenty of it. Doesn't take lots of water to make hydrogen, but you need really clean water, and so you don't have to spend a lot of money cleaning it up. It's already there. And we already have that allocation, because coal plants use lots and lots of water, so we won't be using nearly as much water in a hydrogen process. It has the advantage of being at high elevation with good sunshine, a very good place for solar. We've got a giant substation there, so there's a place to put energy, it's ready to go.

**KRISTAN (narration):** Hydrogen fits in neatly with much of what the Craig station already does well.

**DUANE:** We've got a workforce that is already trained on how to deal with high pressure piping and how to operate heavy equipment safely and how to handle large amounts of energy. So many times people talk about a retiring plant, and their proposal is to retrain those plant workers, and they talk about things like training them to be software people or, you know -- I mean, that's not necessarily why they went into that job to begin with. They like -- the people that work in the plants tend to have a lot of pride of workmanship, they want to work on heavy equipment they want to make things operate. And when you think about redeploying them into different kind of work, that's not always what they want, they want to do that kind of work they're already doing. In the case of repurposing a plant to operate on different fuel, that's totally

complementary to what they already do. You can still use welders, mill wrights, machinists... all the same people can have a future. And so we're super excited about this.

**KRISTAN (narration):** Ultimately, we should think about coal the same way we think about other technologies. And technologies eventually get upgraded. It's exciting to imagine that innovation happening right here, right when it's needed most.

**DUANE:** Right now the cost of hydrogen is very high compared to conventional fuels, but we're hopeful one of our local Colorado renowned study people (laughs) has done some work that has illustrated that Craig, Colorado likely is the lowest cost place in the entire United States to make green hydrogen. It has the highest potential for clean renewables. Again, high elevation lets the solar work better, and a great substation, a great workforce, low cost water inputs. So, if any place can do hydrogen, Craig, Colorado can do hydrogen. The dream would be that we will be partnering with the state to create an Energy Research Collaboratory at Craig partnered with, maybe, Colorado State University. I just think there's an opportunity for us to come together and demonstrate -- and why not in Colorado? -- demonstrate some of these leading technologies. We don't know which ones are going to be the winners. But we need to be moving to demonstration phase with these different ones. So, we would love for that to be happening at Craig.

**KRISTAN (narration):** But not every question about the future of the Craig station has an answer yet. Water remains a big concern in the region. Tri-State owns significant water rights along the Yampa River. The company hasn't announced what will become of those rights if the station shifts its production or closes.

**JENNIFER HOLLOWAY:** This river is the lifeblood of our valley. And it is shrinking and the water is barely coming through.

**KRISTAN (narration):** Jennifer Holloway, Executive Director of the Craig Chamber of Commerce.

**JENNIFER:** *But it's still one of the last mostly wild rivers and I worry about our about the environment and this water and how we're going to survive if there's no water, and how this water is on everybody's radar, in particular with TriState owning water rights.*

**DUANE:** What I do know about water at Craig is that the amount of water it takes to create hydrogen energy is far less than the amount of water that will be consumed in a coal plant's normal steam process. So you evaporate lots and lots of water in cooling a coal plant, to keep it operating. My understanding is the amount of water needed for hydrogen electrolysis to create that equivalent amount of energy is a fraction of that. But you know that water represents an enormous opportunity, that there's so much interest in.

**KRISTAN (narration):** How much water use is too much? After all, the circumstances have changed dramatically in the West. We've heard people like Tom Kleinschnitz tell us about the ongoing drought. Towns like Craig have to think carefully about how their water gets allocated. A hydrogen plant might be worth it. Other options might not be.

**JENNIFER:** My biggest fear is that those water rights will be sold to the highest bidder. When we really don't have enough water in the river right now. And we need that water for our

agriculture. And our towns to have water for the city. What's going to happen with that. We have to have a real serious conversation, and the right minds on this situation and, and I know Tri-State has a huge burden with deciding what to do with those water rights and how do we allocate those when we're done with them. And I just hope that we can look at the big picture. I hope that Tri-State can look at the big picture. And that those water rights, any water that's left in the Yampa River can be used for environmental reasons for things that will be long term to keep the sustainability of our animals, and of our natural world. That's what has to happen.

**DUANE:** Our phone rings a lot with people asking: what are you going to do with that water? Knowing that the plant is closing, even if we go to the hydrogen production, there should still be surplus water available for other uses. Now, people proposed a number of things. Some say put it back in the Yampa, which is great. Some say we've got other uses for it. And those questions have not yet been answered.

**KRISTAN (narration):** Climate change is the common thread in many of the hard questions Craig faces. And while climate still may not be the driving issue here that it is elsewhere in Colorado and the U.S., I heard a surprisingly enthusiastic embrace of renewable energy that might have been unthinkable in a coal town even a decade ago. Over and over, I encountered a willingness to collaborate on new ideas around energy. That gives me hope that we're getting somewhere. Just look at Tri-State. The utility has pledged to slash its greenhouse gas emissions in Colorado 80% by 2030, relative to 2005 levels. That would exceed state targets. Eventually, it wants to get its entire statewide energy production to net zero carbon emissions. Other Colorado utilities like Xcel Energy have made similar pledges. The landscape is evolving quickly. But even as the head of a large utility, Duane doesn't quite know how the energy transition will play out yet. Like so many others we've spoken with in this series, he's navigating the uncertain road to change.

**DUANE:** For the last two years we've moved in a very rapid way to turn into the energy transition and to support that strongly with a lot of activities at the co-op, and we're only maybe halfway there. In my mind, we got about two years in and we got another two years to really clearly define and answer some of those questions like what are you really going to do in 2030 and how are you going to keep this grid reliable as you make this transition. We don't have all those answers yet. I think we can get in a comfortable spot in two years. So it's like climbing a mountain in my mind. And any of you that hiked to 14er know, it's a lot of work, and you kind of walk and walk and walk and walk and walk and trudging and trudging, and it seems like you're not really getting anywhere and you kind of see the peak and you don't see the peak. But every once a while you'll go over your shoulder go, "wow, look what we've done," because it doesn't feel like you're moving it's kind of just slow. If you look back up here we can see a lot. And so I think that's where we are, there's maybe some false summit so we don't know the trail exactly we're going to need to know where the summit generally has got to go up.

**KRISTAN (narration):** What will the Craig station look like in a decade? Tim Osborn, the plant manager, hopes it can be transformed rather than torn down.

**TIM OSBORN:** If there's something that we could do here with hydrogen that's very cool. And I guess I look at the hope side of it more than anything, I think we're pretty resilient as a community, we've been through boom and bust before. Before the plant was being built in 1974, there wasn't -- the industry wasn't here, it was a small town. And there's, I guess there's

potential that it could go back to a similar small town, but I think there's a lot of stuff happening in the community that's going to be beneficial to look for economic drivers.

**KRISTAN (narration):** His outlook on Craig is short and sweet.

**TIM OSBORN:** It looks different. Doesn't mean the whole place is just gonna dry up, shrivel up, and go away.

*(transition)*

**KRISTAN (narration):** During our stay in Craig, it was possible to forget, at times, about all the politics and controversy and existential challenges surrounding the energy transition, our changing climate, and what we do about all of it. We sat outside on hot summer nights and played trivia at the downtown brewery. We watched horses in the fields at sunset. All around us, there were hopeful signs for a post-coal future. Real estate prices have been rising. Buyers have started purchasing lots that sat vacant for years. The town is moving forward on plans for a new recreation center. The Craig Chamber of Commerce celebrated its 75th anniversary with a well-attended gala. Moffat County Tourism unveiled its new marketing slogan: "Colorado's Great Northwest."

Kirstie McPherson, whom we heard from in our very first episode, is now entering year three of operating her 518 Wine Bar in downtown Craig. She's part of the up-and-coming generation. And she can picture success.

**KIRSTIE MCPHERSON:** My vision for Craig in 2030 if everything, if I had a magic wand and I could do all the things that make sense or the things that we're working on or any of those pieces is, our downtown, there wouldn't be any empty buildings. Everything would have a place and a space, and the buildings would also all look like there's something important in them, whether it be shops, restaurants, real estate, but no empty buildings.

**KRISTAN (narration):** Kirstie and her partner Sean, who works at the Trapper coal mine, are already planning new investments.

**KIRSTIE:** Sean and a partner are going to be opening up a distillery. And that is going to be placed in the downtown area someplace and the goal of that is to grow on par with a lot of the other distilleries around the country and in this area, where we will be providing employment for some of these different individuals as well. And that correlates right back into engineering and transferable skills and, I mean, and being able to also show that, because the two partners - one is at the power plant and one is within the coal mine -- to show people what else they could potentially be doing.

**KRISTAN (narration):** That economic diversification is exactly what Wade Buchanan, Director of the Colorado Office of Just Transition, hopes to see. He's not usually one for making grand predictions. But he let himself peek ahead, just a little.

**WADE BUCHANAN:** 2030. Well, I'll be 70 years old, so I hope I'm retired, that will be success for me (laughs). Hope I can afford to retire. 2030 in Craig, well it goes back to, we're very deliberate in our action plan saying here are our goals. And our goals are for the community, more good paying jobs, broader property tax base, more economic diversity in the community.

For the workers, it's a very similar thing: that they were able to achieve a transition to some future of work that is desirable to them and hasn't caused them great economic disruption, where they're able to sustain something like the lifestyle they had. I'm hoping that by 2030, we will see those goals being achieved. 2030, we won't by any stretch be done.

**KRISTAN (narration):** There are still some reflexive hesitations in Craig, mostly around new people coming to town. Jennifer at the Chamber knows that might never completely go away.

**JENNIFER:** We're isolationists in a way. We're independent, we have a lot of open space. And we're used to seeing the same people everywhere we go and we're cool with that. How do you balance that with needing an economy, needing their money, but not wanting people here. And that's tough, because we have to face that, we have to talk about that and we have to figure out what to do because the reality is people are coming anyways.

**KRISTAN (narration):** But Craig might end up benefiting from the post-COVID rise in remote work. As workers look beyond the Front Range for more affordable places to put down roots, why not northwestern Colorado? And that trend might be something Craig can embrace.

**JENNIFER:** I don't think people mind as much, if people are going to come here and live to become part of the community. They have remote jobs, that's okay, you're still going to go to our grocery store, your kids are still going to go to the school, you probably still participate in our community.

**KRISTAN (narration):** When people do come to Craig for the very first time, they'll find a town learning how to move beyond what's defined it for so long. Here's Kirstie again:

**KIRSTIE:** Opportunity is around every single corner. I mean there's, if you want to create anything here this is the spot to do it. We have a lower cost of wage, we have lower cost of living, we have all these things that make this a great spot to try an opportunity. I will also be the first to say that if you can make a business work in Craig, you can make it work literally anywhere else.

**KRISTAN (narration):** Wade shares her general optimism, even as he offers a gentle word of caution: Change needs to be sustainable. Even a decade might not be long enough to know if all this effort paid off.

**WADE:** I think in 2030 if you can point to Craig or the other communities and see that those things are happening, then I think we're succeeding. And then come back in 2040 and see what kind of communities they are. And frankly, not to scare anybody, but I think it's 2040 that's the best measure because we'll be as far away on the other side of the closures as we are right now. Be a little further than we are right now. And we'll see how the whole trajectory worked and whether the solutions we identified and the businesses we brought in and the diversification that we brought had staying power. If they're still there, if the community is still thriving, if it's no longer in a situation where one business closure is going to upend the whole community then we will have done our work.

**KRISTAN (narration):** I said earlier that I came away hopeful from my time here. And that's not because decisions like Tri-State's don't have very real human impacts. They do. But I also know that change is not unmanageable.

Driving back to Denver from Craig, with the three power plant stacks in the rear view mirror, I saw six electric car charging ports at the gas station on the edge of town. If that's not a metaphor, I don't know what is. Coal doesn't have to define this place anymore. The new ideas and new technologies we've heard about can power the future. And that's exciting.

**KIRSTIE:** Whatever it's named in history books in 100 years, this is the next Industrial Revolution in some sort of way.

**KRISTAN (narration):** History can move quickly. We've seen how fast industries can rise and fall. The world keeps going. Craig is facing many of the same things that each of us confronts in our own ways. We all have to grapple with uncertainty about what's next.

There's a lot of friction in our energy transition. Our individual motivations are complicated and contradictory at times. As humans, we tend to favor the path of least resistance. But to address big challenges, we have to be brave enough to steer into that discomfort. We must find ways to reduce that friction and bridge divides. That takes time. It takes outreach. It takes listening.

I come back to that word: resilience. Craig has lots of it. They also have ideas. They have passion. They have help. So I'm hopeful because I know people care. I hope all of us can navigate this complex world together with new perspective as we try to honor our common humanity.

*(transition)*

**KRISTAN (narrator):** Coal at Sunset was created by the Institute for Science & Policy, a project of the Denver Museum of Nature & Science, produced in partnership with House of Pod. I'm your host, Kristan Uhlenbrock. This show was written by Trent Knoss. Our producer is Juliette Luini. Our executive producers are Trent Knoss and me, Kristan Uhlenbrock. Our field recorders are Nicole Delaney and Juliette Luini.

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