CITY COUNCIL EXECUTIVE COMMITTEE MEETING
CITY COUNCIL CHAMBERS, THIRD FLOOR, CITY HALL,
#1 CITY HALL PLACE, PUEBLO, COLORADO 81003.

MONDAY, FEBRUARY 12, 2024
5:30 PM

Individuals Requiring Special Accommodations Should Notify the City's ADA Coordinator at (719) 553-2295 by Noon on the Friday Preceding the Meeting.

Executive Committee meetings are special meetings of the City Council and are informal Council meetings for the purpose of receiving information and discussion among Council Members; no official action is taken at such meetings. The public is invited to attend, but public comment is generally not received unless otherwise noted.

Agenda

CALL TO ORDER

PRESENTATIONS

A. CITY UPDATES 5:30 p.m.
Laura Solano, Chief of Staff
5 minute presentation

B. LOBBYIST UPDATE 5:35 p.m.
Gil Romero - Capitol Success Group
15 minute presentation

C. PUEBLO INNOVATIVE ENERGY SOLUTIONS ADVISORY COMMITTEE (PIESAC) REPORT 6:00 p.m.
PIESAC Committee
Corinne Koehler - Co-Chair
Frances Koncilja - Co-Chair
40 minute presentation

ADJOURNMENT

PIESAC

PUEBLO INNOVATIVE ENERGY SOLUTIONS ADVISORY COMMITTEE

PuebloEnergyStudy@xcelenergy.com

Shuttering Comanche 3 in Context

- **JOB LOSS:** The City of Pueblo commissioned CSU Pueblo to prepare an "Economic Impact Analysis. Dr. Wakefield concluded that:
  - The direct impacts from 77 jobs at Comanche 3 is $11,204,793 per year.
  - Comanche 3 also provides indirect employment for another 160.9 employees and induced employment for an additional 173.22. Thus Comanche 3 provides employment opportunities and benefits for 411.19 full time workers.
  - The total direct, indirect, and induced impact of Comanche 3 is $196,083,329.49 per year.
- **LOSS OF TAX BASE:** Using the Tax Notices for 2020 (to be paid in 2021), Pueblo County collected the following amounts from the three owners of Comanche 3:
  - $25,047,238 – Xcel 2020 Tax Notice4
  - $4,592,172 – 2020 Tax Notice to CORE
  - $1,277,394 – 2020 Tax Notice to Holy Cross
  - $31,016,804 – Total Tax Payments made in 2021

Economic Outcomes Comparison

1 TO 10 JOBS:

	Lithium Ion Battery*	High Temp Battery	Flow Battery	Kinetic Energy	Solar
Long Term	1-5	1-5	1-5	1-5	5-10
Salary	$40-80K	$40-80K	$40-80K	$40-80 K	$40-80K
Property Tax	$1.73M	$1.73M	$1.73M	$1.69M	$1.69M

5 TO 25 JOBS:

	Long Duration Storage*	Thermal Energy Storage*	Liquid Air Energy Storage	Hydrogen Primary Fuel*	Compressed Air Energy Storage*
Long Term	5-15	15-25	5-15	20-30	30-40
Salary	$35-80K	$60-80K	$60-100K	$80-120K	$80-120K
Property Tax	$1.69M	$1.73M	$1.73M	$1.73M	$1.73M

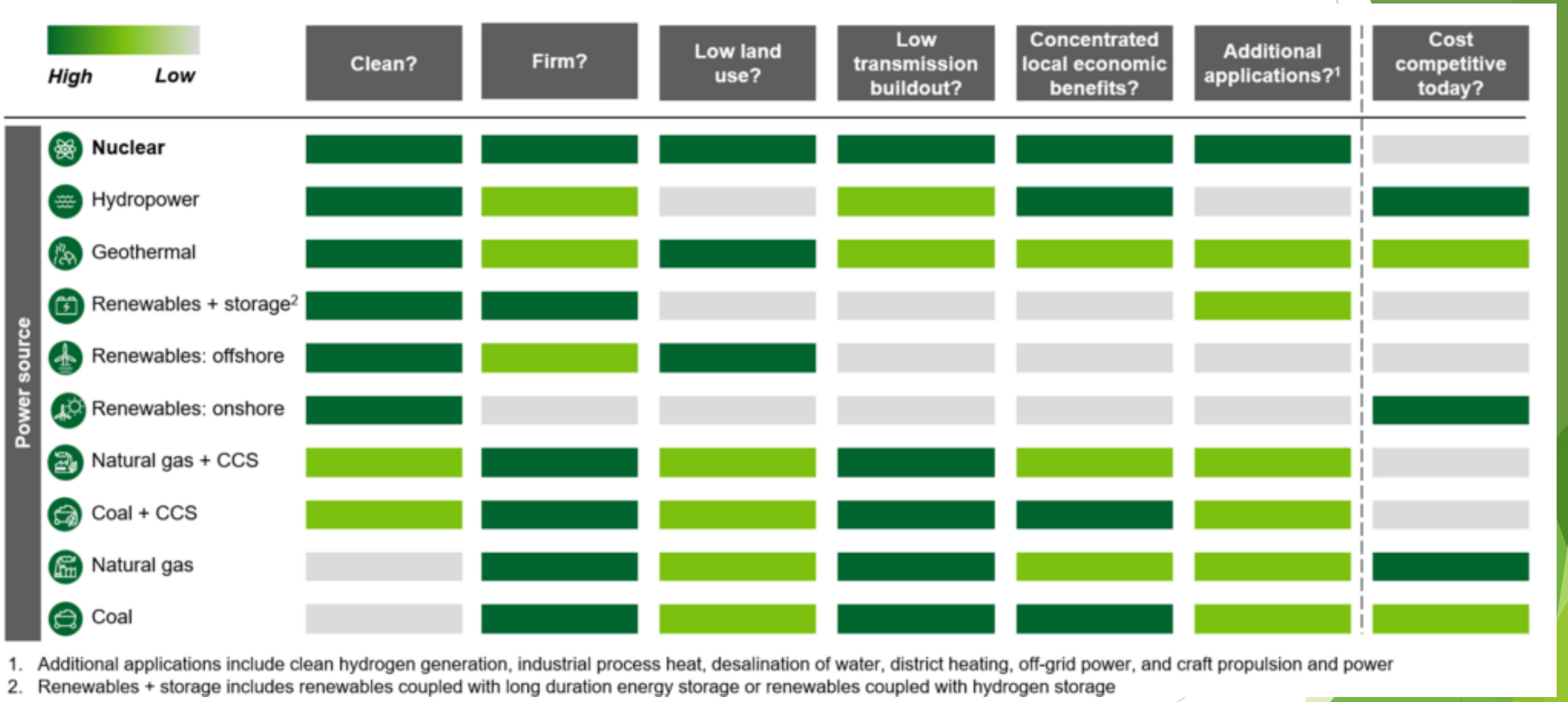
*These five technologies are recommended by 1898 to be included in the Pueblo Just Transition ERP to be filed by June 2024.

20 TO 300 JOBS:

	CCGT with Carbon Capture**	Advanced Nuclear**
Long Term	20-25	200-300
Salary	$80-120K	$60-200K
Property Tax	$16.52M	$95.29M

** PIESAC recommends these two technologies be included in future resource plans and that Xcel Energy begin to create generic modeling to evaluate these two technologies against other technologies and include the proposed definition of Just Transition as a way to quantify these community benefits in evaluation options. The LEEDS study supports our conclusions and recommendations as both of these technologies performed well in the LEEDS study from a community economic benefit perspective (with advanced nuclear being the top performing resource).

Energy Comparisons



1. Additional applications include clean hydrogen generation, industrial process heat, desalination of water, district heating, off-grid power, and craft propulsion and power
2. Renewables + storage includes renewables coupled with long duration energy storage or renewables coupled with hydrogen storage

Supporting a Just Transition

"Just Transition" means that coal communities should not only be no worse off with the closure of coal facilities but also replace the coal generation with high paying and highly skilled jobs and lost tax base so that coal communities have an opportunity to prosper, grow, and reimagine their local economies.

PIESAC

PUEBLO INNOVATIVE ENERGY SOLUTIONS ADVISORY COMMITTEE

Xcel Energy established the Pueblo Innovative Energy Committee (“PIESAC”) to obtain recommendations from the Pueblo community about the best replacement for Comanche 3. With the help of outside consultants and experts from Xcel Energy we have been working, studying, and analyzing the options available for the last 10 months.

This is the first time that any utility in the country has sought community input from coal communities early in the process, We appreciate and applaud Xcel Energy’s commitment and diligence, and hope this is a process that other utilities and communities will adopt. Xcel Energy will file its Pueblo Just Transition Plan with the Colorado Public Utilities Commission (“PUC”) by June of this year—2024 and then will file additional resource plans over the next several years. We hope that Xcel energy will present our recommendations to the PUC as part of the Pueblo Just Transitions Plan.

The ten months that we have spent studying and analyzing the options have led us to conclude that there is only one advanced clean energy technology that will make Pueblo whole from the economic pain it will suffer from the closure of Comanche 3. That is advanced nuclear. Advanced nuclear has zero emissions, runs 24 hours a day and can provide Xcel Energy with a reliable, dispatchable power source. A new gas plant with carbon capture provides some jobs and some tax replacement but does not make Pueblo whole from the closure of Comanche 3.

The Comanche Station is a 695 acre site with a rail system, water contracts, transmission capacity and injection. It includes three coal generating units that have provided highly paid, family supporting jobs and tax payments of millions of dollars for decades. Comanche 3 was supposed to provide over $845 million in tax payments to Pueblo through its original closure of 2070. However, Colorado state law requires the closure of the coal generators at Comanche earlier. Comanche 1 closed in 2022. Comanche 2 will close in 2025. Comanche 3 will close no later than January 1, 2031. The Pueblo community has supported these early closures and done more to reduce emissions in the state than any other community.

One of our goals was to provide clean energy recommendations that would at a minimum, replace the jobs and taxes and make Pueblo whole. Another goal was to make recommendations that would place Pueblo in a major leadership role as a community supporting and welcoming innovative clean energy projects and a path to prosper.

Comanche 3 has been a major economic driver of the Pueblo economy. Dr, Wakefield of the Healy Center at Colorado State University, Pueblo, has testified that Comanche 3 is one of the most economically impactful industries in the Pueblo community with a total annual impact of over $196 million a year.

The closure of Comanche 3 has huge tax impacts. In 2021 Pueblo County collected over $25 million from Xcel Energy-- approximately $15.9 million comes from Comanche 3). The other owners of Comanche 3 (Holy Cross Electric and CORE) pay almost $5.9 million a year to Pueblo County. Xcel Energy has agreed to make a payment in lieu of taxes of approximately $15.9 million a year for the closure of Comanche 3 for 10 years—until 2040. Holy Cross and CORE have not made similar commitments.

Relying on the continued payments in lieu of $15.9 million in taxes without a plan as to how to replace those taxes is reckless. By way of example, to replace the loss of $15.9 million in taxes would require the construction of 7950 new homes paying $2,000 a year in property taxes to offset that loss. Or Pueblo could develop a plan to attract 1590 new businesses paying $10,000 a year in property taxes to offset the loss. Adding another 7950 homes and or adding another 1590 new businesses is not likely to occur, which is why the community needs to start planning now. It takes a long time to do big things and replacing high paying skilled jobs and taxes from Comanche is a big thing.

We reviewed numerous new types of zero or low emission technologies to replace Comanche 3—Long Duration Storage, Lithium-Ion Batteries, Compressed Air Energy Storage, Thermal Energy Storage, Hydrogen as a Primary Fuel, High Temp Battery Storage, Flow Batteries, Liquid Air Energy Storage, additional Solar, Kinetic Energy Storage, Combined Cycle Gas with Carbon Capture and Advanced Nuclear.

Unfortunately, as the tables below establish, most of these technologies produce few jobs and at most, $1.73 million in annual tax payments.

	Lithium Iron Battery	High Temp Battery	Flow Battery	Kinetic Energy	Solar
Long Term	1-5	1-5	1-5	1-5	5-10
Salary	$40-80K	$40-80K	$40-80K	$40-80 K	$40-80K
Prop Tax	$1.73 M	$1.73 M	$1.73 M	$1.69 M	$1.69 M

	Long Duration Storage	Thermal Energy Storage	Liquid Air Energy Storage	Hydrogen Primary Fuel	Compressed Air Energy Storage*
Long Term	5-15	15-25	5-15	20-30	30-40
Salary	$35-80 K	$60-80K	$60-100K	$80-120 K	$80-120K
Prop Tax	$1.69 M	$1.73 M	$1.73 M	$1.73 M	$1.73 M

Only advanced nuclear will make Pueblo whole and put the community on a path to prosper. A new combined cycle gas plant with carbon capture provides some jobs and taxes but does not come close to replacing Comanche 3.

	CCGT with Carbon Capture	**Advanced Nuclear**
Long Term	20-25	200-300
Salary	$80-120K	$60-200K
Prop Tax	$16.52 M	$95.29 M

There is substantial community support for advanced nuclear as well as a new gas plant with carbon capture. The Keating Group, a nationally recognized polling company conducted a poll of 500 registered voters in Pueblo and found that:

- 63% of Puebloans are concerned about the closure of Comanche 3.
- 74% supported a new combined cycle gas plant with carbon capture.
- 66% supported advanced nuclear.

Loss of jobs and tax payments will cause economic pain for the Pueblo community for decades, unless new zero or low emission electric generation replaces Comanche 3. Committee members put it this way: “Pueblo is a poor community, and the closure of Comanche 3 puts us further behind.” “Loss of these jobs and taxes are personal, not theoretical to our community.” The best option for the economic well being of the Pueblo community is to replace Comanche 3 with advanced nuclear generation. It has zero emissions. Advanced nuclear will make Pueblo whole and provide it a path to leadership in the clean energy economy and a path to prosperity. Obtaining the necessary permits and financing will take a commitment from Xcel Energy as well as the community and we hope that this report will provide a basis to have the conversation.

For more information about the Pueblo Innovative Energy Solutions Committee, please visit XcelEnergy.com. Members of the public can review recorded meetings, documents, ask questions or provide feedback by emailing PuebloEnergyStudy@xcelenergy.com or calling the toll-free hotline at 877.292.5918.

Pueblo Innovative Energy Solutions Advisory Committee Report

January 2024

The closure of Comanche 3[1] in 2031 will have devastating impacts on the economy of Pueblo unless the community, Xcel Energy ("Xcel Energy"), and other stakeholders begin planning now for replacement of the highly paid and highly skilled jobs and tax payments. Dr. Wakefield, Director of the Healy Center at Colorado State University Pueblo ("CSU Pueblo"), has testified that Comanche 3 is one of the most economically impactful industries in the Pueblo community with a total annual impact of over $196 million a year. Xcel Energy presented testimony that Pueblo would have received over $845 million in tax payments if Comanche 3 had operated until 2070, the original proposed date of its closure. Loss of jobs, related businesses and substantial tax payments will cause economic pain for the Pueblo community for decades. As one of our members stated: "Pueblo is a poor community, and the closure of Comanche 3 puts us further behind." Another member stated: "Loss of these jobs and taxes are personal, not theoretical to our community." Recent polling indicates[2] that people in Pueblo understand this—63% are concerned about the closure of Comanche 3 and 42% of that group very concerned.

As members of the Pueblo Innovative Energy Solutions Advisory Committee ("PIESAC"), we are appreciative of the opportunity that Xcel Energy has provided us to participate in studying the current and future options for zero or low emission energy generation that could be built in Pueblo to replace the power, jobs, and taxes now provided by Comanche 3. This is the first time that any utility in the country has proposed a separate electric resource plan that would benefit a coal community such as Pueblo and it is the first time that any utility in the country has proposed community involvement early in the process. We are proud to be part of this historic process. We know that Xcel Energy was not required by any statute or regulation to involve the community in early discussions about the replacement of highly paid jobs and tax base caused by the early closure of Comanche 3. We appreciate the leadership of Xcel Energy and hope that the PIESAC model will be used by other utility companies in the nation to provide a truly just transition for coal communities such as Pueblo.

We have learned a huge amount in the last ten months by listening to outside consultants, subject matter experts at Xcel Energy, and the Pueblo community. Each of us has served on numerous committees during our professional lives. The substantive information presented by Xcel Energy as well as the consultants has been truly impressive. The information has allowed us to make recommendations that will truly benefit Pueblo. We hope that this PIESAC Report can provide information and recommendations that can be used by Xcel Energy, the Public Utilities Commission ("PUC"), citizens of Pueblo, and their elected officials to not only make Pueblo whole as the result of losing highly paid and skilled jobs and tax payments with the closure of Comanche 3, but more importantly put Pueblo on a path of innovation and growth as a hub of clean energy generation along with related clean energy businesses. We want the health of the Pueblo community to benefit from reduced emissions. We hope that the new innovative technologies we

[1] The Comanche Site or Comanche Station includes three coal generating facilities—Comanche Unit 1, Comanche Unit 2, and Comanche Unit 3. We will refer to each of these units as Comanche 1, Comanche 2, or Comanche 3.

[2] As explained below, the Keating Group conducted a poll of 500 individuals from Pueblo during the period November 9-14, 2023 ("Keating Poll").

are recommending will give Pueblo a path to prosper and become the hub of advanced zero or low emission electricity and provide energy equity for the residents of Pueblo.

We understand that Xcel Energy has obligations to its customers and that any replacement of Comanche 3 must contribute to the reliability of your electric generation system and come at a reasonable cost to your customers. We have been diligent in our efforts to understand and take into account these matters.

Big things do not happen overnight. It took over 10 years to put together the approvals and stakeholder groups that resulted in the construction of Comanche 3. It will take community involvement over the next years to develop and implement a replacement for Comanche 3 that provides highly paid skilled jobs and tax payments for Pueblo and provides a path to prosperity and clean energy technology leadership for the Pueblo community.

I. EXECUTIVE SUMMARY

Our goals during these last ten months have been to learn about, analyze, and recommend replacement generation that will make Pueblo whole from the losses it will suffer from the closure of Comanche 3 and provide Pueblo a path to prosper and achieve greatness through the transition to clean energy. As Dr. Wakefield stated, Comanche 3 has provided highly paying, highly skilled jobs with a combined $196 million in indirect and induced economic impact for the Pueblo community. Xcel Energy is one of the largest taxpayers in Pueblo, paying over $25 million a year to Pueblo County, most of which is from the Comanche Station with over $15 million of that amount from Comanche 3. In addition, Holy Cross Electric and CORE (the other co-owners of Comanche 3) pay almost $5.9 million a year in taxes to Pueblo County. Closing Comanche 3 in 2031 as opposed to its original closure date of 2070 will cost Pueblo over $845 million in taxes. These payments fund not only the operations of the county and the city but also fund schools, fire districts, libraries, conservation districts as well as the operations of the city and the county. It is urgent that we reduce climate changing emissions, but we must also provide a path forward for coal communities such as Pueblo that have relied on highly paid skilled jobs and tax payments from coal plants.

Through no fault of Xcel Energy, the Pueblo Just Transition Plan which must be filed in June 2024 will not provide a full “just transition” for Pueblo. That is because the technologies that are technologically and financially mature and could be built by 2031 provide few jobs and pay only a fraction of tax payments currently paid. Therefore the Committee, with the help of Xcel Energy and the consultants has looked beyond 2031.

After reviewing and studying the possible exciting new clean energy technologies that could be available by 2034, the Committee recommends that Xcel Energy consider constructing in Pueblo in the future advanced nuclear including small nuclear modules and or a new combined cycle gas plant with carbon capture. A new gas plant with carbon capture will not make Pueblo whole. It provides only 20 to 25 jobs with a salary range of $80,000 to $120,000 and tax payments of approximately $16.5 million a year. Of all of the technologies that we studied, only advanced nuclear generation will make Pueblo whole and also provide a path to prosperity. Advanced

nuclear provides 200 to 300 jobs with a salary range of $60,000 to $200,000 and tax payments of $95.29 million a year.

While Xcel Energy's commitment to make payments in lieu of taxes until 2040 is laudable, Pueblo should not rely on those tax payments as a reason to stop planning for the future. First the tax payments of over $31 million a year are paid by Xcel Energy, Holy Cross Energy and CORE. Xcel Energy's commitment, while generous, only provides approximately $15.9 million a year of that $31 million.

The closure of the three coal plants in Pueblo will result in a 36.8% reduction of Xcel Energy's emissions and a 20.5% reduction of statewide emissions from the electric sector as compared to 2005 levels. These benefits to the state and the loss of high paying and skilled jobs in Pueblo as well as the loss of tax payments should be taken into account in modeling the financial feasibility of either a new gas plant with carbon capture and or advanced nuclear in comparison to other technologies that do not provide benefits to Pueblo. Similar to taking into account the social cost of carbon in the financial modelling, the costs of a just transition for coal communities should be taken into account in the modelling.

Xcel Energy has provided the Pueblo community with a transitional period through 2040, and this should not be wasted. The Pueblo community needs to organize now to discuss and hopefully support the construction of a new gas plant with carbon capture and/or advanced nuclear modules. These are the only technologies that provide a large number of good paying jobs as well as large tax payments to the community that could replace Comanche 3. Looking at jobs, tax payments and a path to the future for Pueblo to prosper, advanced nuclear is the clear winner.

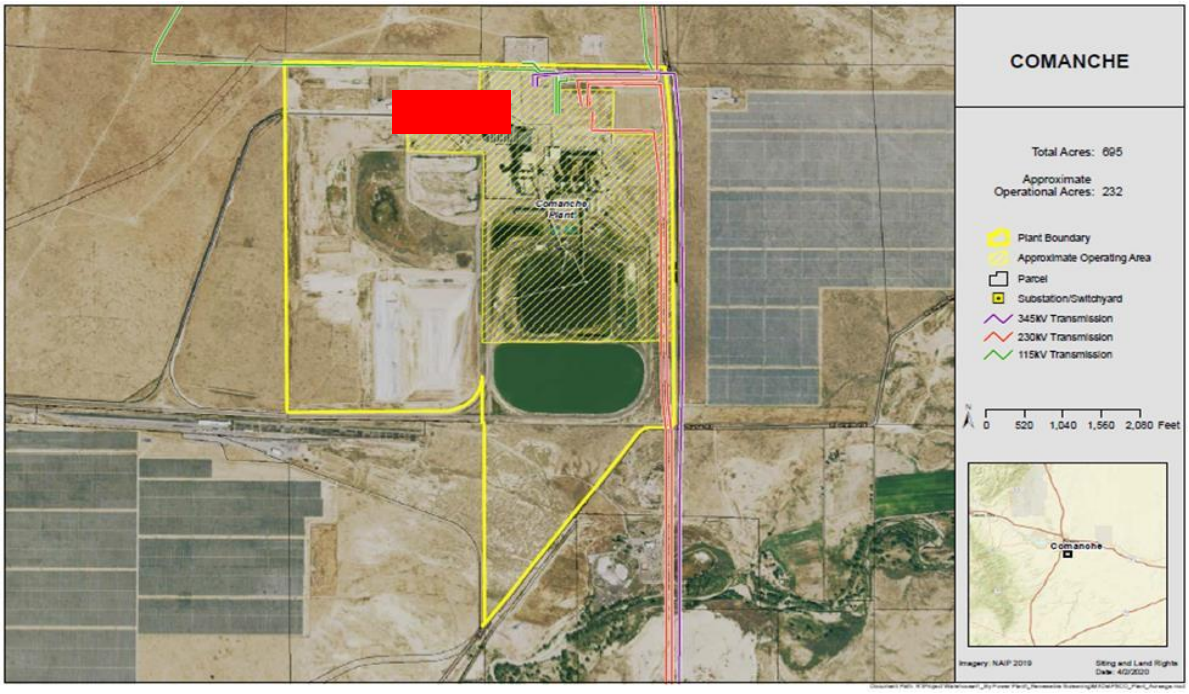
II. COMANCHE STATION

Comanche Station contains roughly 695 acres and includes the three coal generating units on it: Comanche 1, 2, and 3. Currently, 460 acres are being used and there are 220 undeveloped acres. 12 acres are being used for the long duration battery storage pilot. Comanche 1 was closed in 2022 and Comanche 2 will be closed in 2025. However, the demolition of those units will be delayed until Comanche 3 is closed.

The Comanche site includes important assets which can be used for new power generation:

- A rail network;
- Transmission capacity and injection; and,
- A take or pay water contract with the Pueblo Board of Waterworks for 13,000 acre feet per year through 2060.

The below photo and map show the Comanche Station, its configuration, and the assets that can be used for new electricity generation.



Xcel Energy has a vested interest in locating new power generation at Comanche Station in order to use these assets that have been paid for by the electric customers of Xcel Energy.

III. COMANCHE: ECONOMIC BENEFITS TO THE COMMUNITY—JOBS, RELATED BUSINESSES AND PROPERTY TAXES

A. Loss of Highly Paid and Highly Skilled Jobs and Related Businesses

We considered two economic studies of Comanche 3—one studied current benefits before closure and the second studied the economic benefits that different types of new generation might provide after closure. One study was commissioned by the city of Pueblo in 2021. The second

study was recently conducted by the LEEDS School of Business University of Colorado as part of the work of PIESAC.

The City of Pueblo commissioned CSU Pueblo to prepare an "Economic Impact Analysis: Comanche 3 Power Plant." The City submitted that report, prepared under the direction of Dr. Wakefield, Director of the Healy Center, to the PUC in Xcel Energy's Clean Energy proceeding. We have included this report and Dr. Wakefield's testimony on the study website (linked below). Dr. Wakefield concluded that the direct impacts from 77 jobs at Comanche 3 is $11,204,793 per year. Comanche 3 also provides indirect employment for another 160.9 employees and induced employment for an additional 173.22. Thus Comanche 3 provides employment opportunities and benefits for 411.19 full time workers. The total direct, indirect, and induced impact of Comanche 3 is $196,083,329.49 per year. As Dr. Wakefield stated: "Our study showed that the economic impact from the Comanche 3 Power Plant is one of the most economically impactful industries in the Pueblo community." Thus, the closure of Comanche 3 without a replacement generation that provides high paying skilled jobs and substantial tax payments will be devastating to Pueblo.

B. Loss of Tax Payments

As we learned from the presentation from Mr. Kowalowski from Xcel Energy, the calculation of tax bills for utilities is a complicated matter that is done by the Colorado Department of Revenue ("Department of Revenue"). The Department of Revenue calculates taxes for utilities on the "unitary" system which is different than how real property and personal property taxes are calculated for individuals or other types of businesses. The Department of Revenue then allocates those tax payments to a county. A county, such as Pueblo County, then sends out the tax notices to the utility. The tax notice includes the amount that the city, the county, the school districts as well as other districts will receive and the basis for the calculation.

Using the Tax Notices for 2020 (to be paid in 2021),[3] Pueblo County collected the following amounts from the three owners of Comanche 3:

- $25,047,238 – Xcel 2020 Tax Notice[4]
- $4,592,172 – 2020 Tax Notice to CORE
- $1,277,394 – 2020 Tax Notice to Holy Cross

- $31,016,804 – Total Tax Payments made in 2021

With the closure of Comanche 1 in 2022, Xcel's tax payments will be reduced by approximately 9%. With the closure of Comanche 2 in 2025, Xcel's tax payments will reduce an additional approximately 12%. After the closure of Comanche 3 in 2031, the tax payment to Pueblo County will reduce an additional 69% down to $7.1 million. Without the payment in lieu

[3] These Tax Notices are also posted on the website.

[4] Some of the amounts paid by Xcel are for the other two coal plants, Comanche 1 and 2 as well as for other property owned by Xcel located within Pueblo County.

of taxes for ten years, Xcel would pay approximately $7.1 million to Pueblo County in 2031 and later years.

However, Xcel Energy has agreed to make estimated tax payments to Pueblo County of an additional $15.9 million per year for ten years.[5] Holy Cross and CORE have not agreed to continue to make payments in lieu of taxes. The 2021 total tax payments made by Holy Cross and CORE are $5,869,566—approximately $6 million a year. It is important to note that the total tax payments that Pueblo County would receive from the operations at Comanche 3 is over $845 million if Comanche 3 operated until 2070—the anticipated date of its closure when it was built.

Relying on the continued payments in lieu of $15.9 million in taxes without a plan as to how to replace those taxes is reckless. By way of example, to replace the loss of $15.9 million in taxes would require the construction of 7950 new homes paying $2,000 a year in property taxes to offset that loss. Or Pueblo could develop a plan to attract 1590 new businesses paying $10,000 a year in property taxes to offset the loss. Adding another 7950 homes and or adding another 1590 new businesses is not likely to occur, which is why the community needs to start planning now. It takes a long time to do big things and replacing high paying skilled jobs and taxes from Comanche is a big thing.

The Keating Poll indicated that 64% were concerned about the closure of Comanche with 42% very concerned. When asked about what worried them, they responded:

- 81% were concerned about job loss.
- 77% were concerned about tax loss.
- 76% were concerned about economic impacts on the community.

It is clear that the community understands the importance of Comanche 3 to the economic wellbeing of Pueblo. The Keating Poll indicated the community is supportive of a new gas plant with carbon capture (74%) and/or advanced nuclear (66%).[6]

IV. HOW PIESAC CAME TO BE AND HOW WE APPROACHED OUR TASKS

The 2019 historic climate legislation required Xcel Energy to file a Clean Energy Plan and Electric Resource Plan in 2021 to develop a plan to reduce emissions and also what amount and type of electric generation it would need over the next seven years.[7] In order to meet emission

[5] This is an estimate which includes certain assumptions about inflation rates. The final amount of payments will be determined by the PUC in the Pueblo Just Transition Plan and this figure of $15.9 million is an indicative estimate.

[6] The poll indicates a high support for additional solar. However, as we explain below solar produces very few jobs—five to 10, with salaries of $40,000 to $80,000—and tax payments of only $1.69 million per year. Further, Pueblo may have reached the saturation point for solar installations.

[7] The two investor owned electric utilities in Colorado—Xcel Energy and Black Hills cannot just decide to build or purchase new electric generation. They must obtain permission from the PUC by filing an Electric Resource Plan or ERP.

reduction targets, Xcel Energy, the city of Pueblo, Pueblo County, and other stakeholders recommended:

- Closure of Comanche 3 in 2034 with reduced operations and reduced emissions of Comanche 3 beginning in 2025.
- Xcel Energy would spend $2 million to conduct a study to determine the types of zero or low emission energy generation in Pueblo that might replace the power, jobs, and tax payments from Comanche 3.
- Xcel Energy would file an electric resource plan titled "Pueblo Just Transition Electric Resource Plan" in 2027 to obtain approval from the PUC to replace the power generated by Comanche 3 with new power generation located in Pueblo and that would also provide highly paid and skilled jobs and tax payments.
- Xcel Energy would make payment in lieu of taxes to Pueblo County for up to ten years after the closure of Comanche 3, but that amount would be reduced if replacement generation for Comanche 3 was built within Pueblo.

The proposed timeline through 2034 would have provided the runway necessary for Xcel Energy and the community to develop financially and technically viable plans to replace the power, jobs, and tax payments from Comanche by 2034. However, further proceedings and an updated settlement agreement moved the Comanche 3 retirement date forward to no later than January 1, 2031. Because of this shortened time period, the Pueblo Just Transition Electric Resource Plan will be filed in June of 2024, not 2027. As a result it will not provide a full "just transition" for the community of Pueblo. The exciting new clean energy technologies that could provide family high paying skilled jobs and tax base for Pueblo will not be ready for consideration by next June because they are still in the development stage. But they could be available in 2034 or later.

Xcel Energy's press release earlier this year announced the creation of PIESAC as follows:

> [A] diverse group of Pueblo community leaders [has assembled] to evaluate and recommend future clean energy generation strategies that will be needed to replace the existing coal units at Comanche Generation Station. The Pueblo Innovative Energy Solutions Advisory Committee (PIESAC) will consider broad economic impacts to ensure the City of Pueblo and Pueblo County will continue to prosper with tax revenue, high-paying and highly skilled jobs, and a workforce pathway benefitting local citizens. … Throughout its clean energy transition, Xcel Energy has focused on affordability and reliability for its customers, while working with employees and communities that host its power plants to ensure a smooth transition.

We held our first meeting in February 2023, and have continued to meet monthly and sometimes twice a month. Our meetings are recorded and posted on Xcel Energy's website

("Pueblo Energy Study Website").[8] All of the slides and materials that have been provided to us as well as public comments and videos of the meetings are posted on the website. We have also included several publicly available documents on the Pueblo Energy Study Website, including the Electric Retail Rate Survey Report of the PUC dated February 1, 2021 ("PUC Retail Rate Report") on the reasons for the high electric rates in Pueblo; Dr. Wakefield's October 2021 report and testimony; Tax Notices for Xcel, Holy Cross, and CORE; and the Clean Energy Vision adopted by the Pueblo Board of County Commissioners in 2019.

Our meetings have lasted approximately three hours. The following independent third parties have advised the committee on electric generation, current and emerging technologies, financial impacts as well as the plan to conduct outreach to the Pueblo community and the results of recent polling:

- 1898 & Co. is a national consulting group established by Burns and McDonnell. They provide business and technology insights into action for critical infrastructure industries. They provided technical expertise on generation resource replacement technologies for Comanche 3, including cost, employment, taxes, and timelines.
- Tetra Tech provides strategic communications expertise to accelerate and improve community-based public outreach and stakeholder involvement for small-scale projects and large environmental programs. They provided a framework for community outreach including one on one meetings, focus groups, and community open houses.
- LEEDS School of Business at Colorado University Boulder provided economic modeling for Pueblo post Comanche 3 closing in 2030, including impacts on tax and Gross Domestic Product ("GDP") for different types of electric generation that could replace, in whole or in part, Comanche 3.
- The Keating Group is a nationally recognized polling company. They conducted polling of 500 registered voters in Pueblo County (Margin of Error: +/-4.4%) November 9-14, 2023, that provided information as to what replacement generation types were acceptable in the Pueblo community as well as the concerns of the community about the closure of the Comanche Station. We refer to these results as the Keating Poll.

Numerous individuals from Xcel Energy made thoughtful oral presentations to the committee and provided substantive written materials including.

- Robert Kenney, President of Xcel Energy Colorado: Shared the company's support for coal communities such as Pueblo that had hosted coal generation facilities.
- Jeffrey Stephens, Xcel Energy – Renewable Energy Development: The Project Lead for the PIESAC report. He discussed available technologies, reduction of emissions and the assets at Comanche that could be used for new generation and scoring matrixes.
- Bill Kowalowski, Xcel Energy – Tax Services: Explained how property tax payments are calculated. The Colorado Department of Revenue does the calculation using the unitary

[8] https://co.my.xcelenergy.com/customersupport/s/projects/pueblo-energy-study

method and that information is provided to the counties, such as Pueblo County and other taxing districts who then use the information submit tax bills to the utilities such as Xcel Energy. The tax bills include the allocation of the tax payments based on mill levies and other financial matters to the various taxing authorities or beneficiaries of the taxes.

- Brock Walstad, Xcel Energy – Corporate Development: Explained ways to analyze different power generations on an equivalent basis including Effective Load Carrying Capability ("ELCC"), the need for dispatchable generation, and the famous California "Duck Curve."
- Jon Landrum, Xcel Energy – Director, Resource Planning and Bidding: Explained Xcel Energy's system reliability and resource planning.
- Pam Gorman Prochaska, Xcel Energy's Director of Nuclear Plant operations in Minnesota: Explained Xcel Energy's experience with its nuclear plants in Minnesota, plans for storing spent nuclear fuel, and plans to seek approval from the Nuclear Regulatory Committee ("NRC") to extend the permits for current nuclear plants in Minnesota.
- Kathryn Valdez, Xcel Energy – Senior Director, Corporate Planning and Carbon-Free Technologies: Reviewed some of the new nuclear technologies, the companies that are developing them, timelines for approval and permitting from the NRC and other regulators, as well as Xcel Energy's relationships with these companies.
- Justin Tomljanovic, Xcel Energy – Vice President, Corporate Development: Toured PuebloPlex with us and discussed economic opportunities for Pueblo as well as support that Xcel Energy could provide to develop those opportunities in the future.
- Holly Velasquez-Horvath, Xcel Energy Colorado – Regional VP, State Affairs/Community Relations: Shepherded the process with the assistance of her talented team:
    - Ashley Valdez, Xcel Energy Colorado – Area Manager, Community and Local Govt. Affairs: Provided local community input and co-ordination.
    - Crestina Martinez, Xcel Energy – Director, Strategic Engagement and Community Outreach.
    - Daniel Venegas, Xcel Energy Colorado – Community Affairs Representative: Provided administrative and technical support for our meetings and supported the inclusion of materials on the Pueblo Energy Study Website.
    - Matt Larson, Attorney – Wilkinson Barker Knauer LLP: Explained the nuances of the Colorado regulatory processes and Xcel Energy's current Clean Energy Plan, the Pueblo Just Transition ERP, and future ERPs that Xcel Energy will likely file.
    - Simon Tafoya, Tafoya Strategies: Provided strategic communication and engagement, in conjunction with Tetra Tech.

We toured the Comanche coal plant and saw the pride of the workers as they showed us the control room, the steam units. As we walked on the catwalk around the top of the building, they pointed out the transmission lines and the rail lines, the holding ponds, the views of the large solar arrays. They pointed out the nearby businesses that rely on doing business with the coal plant. We were all struck with how these hardworking men and women have been marginalized because of their connection to a coal plant. Regardless of what we have learned about the danger of the

emissions from coal plants, the community should respect and honor these workers as they see their past accomplishments denigrated and their future eradicated.

PuebloPlex is a large undeveloped area with roads and rail and thus is also a possible site for replacement generation. Russell DeSalvo, one of the members of PIESAC described the opportunities at PuebloPlex to us at one of our first meetings as follows: PuebloPlex offers abundant opportunities for clean energy development, related manufacturing, and necessary transportation infrastructure. PuebloPlex is near significant transmission capacity and has utility-scale acreage available. In addition a highly skilled workforce is soon becoming available.

We later toured PuebloPlex with Xcel Energy representatives, including Mr. Tomlijanovic, as Mr. DeSalvo pointed out the huge potential for energy related companies at PuebloPlex including hiring the 2,000 highly skilled workers with security clearance whose work will soon be completed.

We heard from community organizations including—the Library association, and the school districts. They are some of the beneficiaries of the taxes from the Comanche Station. If the library no longer received these funds, they would have to close two libraries and could not increase their services or build new libraries. Any large reduction in these tax payments to the two school districts would severely impact their ability to educate students and to develop curricula. Many of these districts, including the conservation districts, have borrowed monies and the tax payments are used in part to pay back that debt. Thus a reduction of taxes from the Comanche Station would leave these districts with little money to do anything other than pay off loans. The educators were very excited about clean energy high tech jobs for which they can train their students, either in high school or encourage them to attend college. Their response was "Ask for our help."

Each of the PIESAC members has different types of expertise and knowledge. The educators on the committee have a passion to train and educate students to find great job opportunities, preferably in Pueblo. Members of the business community shared the challenges of getting new high paying jobs in Pueblo. Former elected officials share their experiences, goals, and dream for Pueblo. Labor is interested in good paying long term jobs for its members and for the health of the community. One of our members is a former commissioner at the PUC. Our discussions and questions have been robust as there are no shrinking violets on our committee. We all approached our responsibilities with a willingness to listen and learn with an open mind, and with an overall commitment to not only make Pueblo whole from the losses caused by the closure of Comanche 3 but develop a plan to move Pueblo forward and to prosper.

V. PUEBLO WAS BUILT ON COAL, STEEL, AND RAIL

People tend to forget why Comanche 1, 2, and 3 were built in Pueblo. Pueblo was built and prospered because of the coal, steel, and rail industries. There is no better example of that than Comanche Station. Comanche 1, 2, and 3 were built in Pueblo because the "Steel Mill" or Colorado Fuel and Iron, the predecessor to EVRAZ, required reliable base load generation for the

steel production.[9] The steel mill requested that the generators be built close to the steel plant and to the coal mines south of Pueblo.[10] At one point the Steel Mill was the largest customer of Xcel Energy as well as the largest employer in Pueblo. EVRAZ is still one of the largest, if not the largest electric customer of Xcel Energy. EVRAZ is also one of the largest employers in Pueblo. Although EVRAZ has built a customer-sited solar array, EVRAZ still needs the reliability of the grid to produce electricity for steel production when the sun is not shining.

Even though Pueblo gets its electric power from Black Hills, not Xcel Energy, Pueblo has an interest in making sure that EVRAZ, one of its largest employers, has a reliable source of electric power to run its facility. EVRAZ continues to expand its operations in Pueblo, in spite of its international challenges. By way of example, the expansion of the rail mill in Pueblo was facilitated in part by Xcel Energy in 2018 with its Colorado Energy Plan which reduced emissions by closing down Comanche 1 in 2022 and Comanche 2 in 2025 and also established a special contract for EVRAZ to facilitate the use of its customer-sited solar array.

Comanche is one of the most financially impactful industries in Pueblo. With the complete closure of Comanche Station in 2031, Pueblo needs to pivot from a coal community to develop a new vision of its future and a plan to attract innovative clean energy projects into the community.

VI. SOME BASIC ENERGY FACTS, CONCEPTS, AND MISCONCEPTIONS

As one of the presenters from Xcel Energy stated "the electric system is highly complex and requires a variety of different resources and technologies to reliably serve grid and load dynamics. Regionally, the Effective Load Carrying Capacity or ELCC of any intermittent or energy limited resource decreases as more and more of that resource is added and impacts the operational and planning decisions of electric utilities and regulators." Put simply, having more and more solar, all else being equal, does not solve the challenges faced by Xcel Energy in providing reliable energy for customers 24/7.

As we stated earlier, the decision as to what type of electric generation to place in Pueblo to make the community whole from the closure of Comanche 3 is driven not only by Pueblo's requests and needs, but also driven by Xcel Energy's resource mix, future growth of electric sales and grid reliability. To understand how Pueblo's concerns and needs can be taken into account, we have learned that an understanding of terms such as the following is critical to have a meaningful discussion of the issues.[11]

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[9] Dispatchable generation is electric generation that runs 24/7—coal, gas, and nuclear plants are dispatchable. Solar and Wind are not dispatchable because they are intermittent, providing energy when the sun shines or the wind blows.

[10] Xcel Energy is the provider of electricity to the steel mill but does not provide electricity to Pueblo. Black Hills is the electric utility that provides service to Pueblo.

[11] Many of these definitions are taken from the U.S. Energy Information Administration website—either frequently asked questions (https://www.eia.gov/tools/faqs/faq.php?id=101&t=3) or glossary of terms (https://www.eia.gov/tools/glossary/index.php).

Nameplate Generator Capacity: determined by the generator's manufacturer and indicates the maximum output of electricity.

Capacity Factor: a measure, expressed as a percentage of how often an electricity generator operates during a specific period of time using a ratio of the actual output to the maximum possible output during that time period.

Effective Load Carrying Capability (ELCC): a measure of the ability of a power system to meet the electricity demand using a particular source of energy or technology.

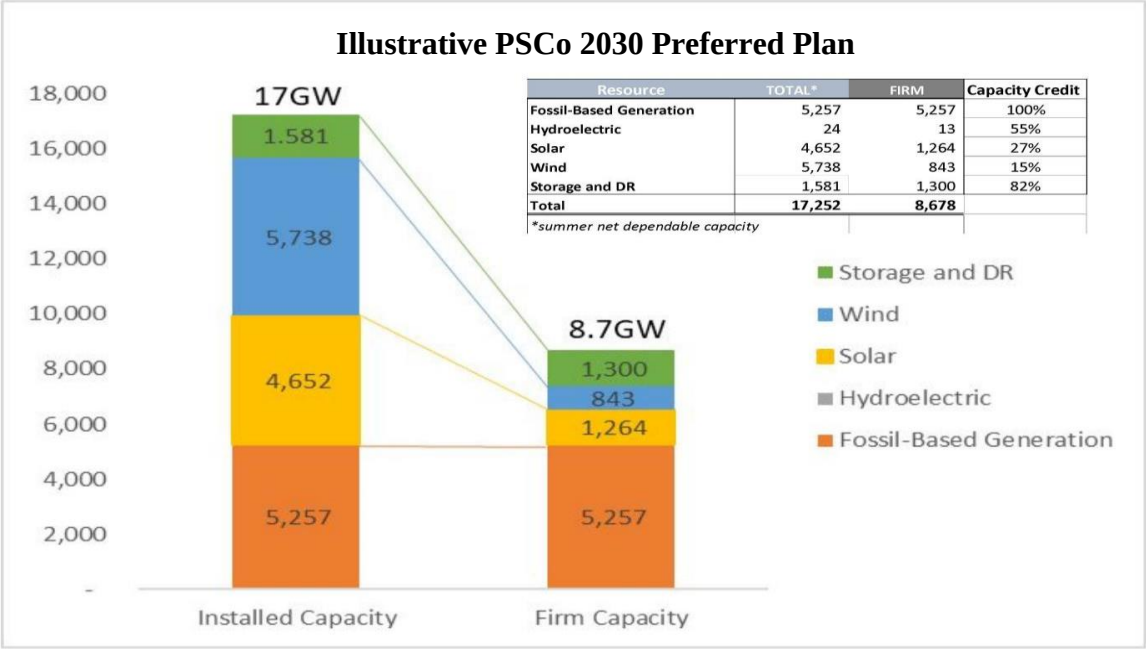
Loads & Resources Table (L&R Table): a tool used to compare the expected demand for electricity, or "loads," with the available resources that can meet that demand. Used in resource adequacy planning to ensure that there is enough capacity to meet the expected peak demand for electricity, while also accounting for any potential outages or other unforeseen events.

Planning Reserve Margin (PRM): a term used to refer to the amount of extra generation capacity that is available to meet unexpected increases in electricity demand or unexpected outages of generation units.

Social Cost of Carbon (SCC): an estimate of the cost, in dollars, of the damage done by each additional ton of carbon emissions. It is also an estimate of the benefit of any action taken to reduce a ton of carbon emissions. The Obama administration originally estimated the SCC as $45 a ton. The EPA has recently raised that number to $190 a ton.[12]

The below bar graph is taken from Xcel Energy's recent preferred plan that it filed with the PUC in its 120-Day Report for its 2021 Electric Resource Plan. This bar graph demonstrates that a utility has to build more wind and solar to replace fossil fuels because of the lower accredited capacity from solar and wind. In contrast, coal, gas, and nuclear plants provide firm capacity at or near 100% of the nameplate or installed capacity.

[12] This definition and explanation are on the following website: https://www.brookings.edu/articles/what-is-the-social-cost-of-carbon/

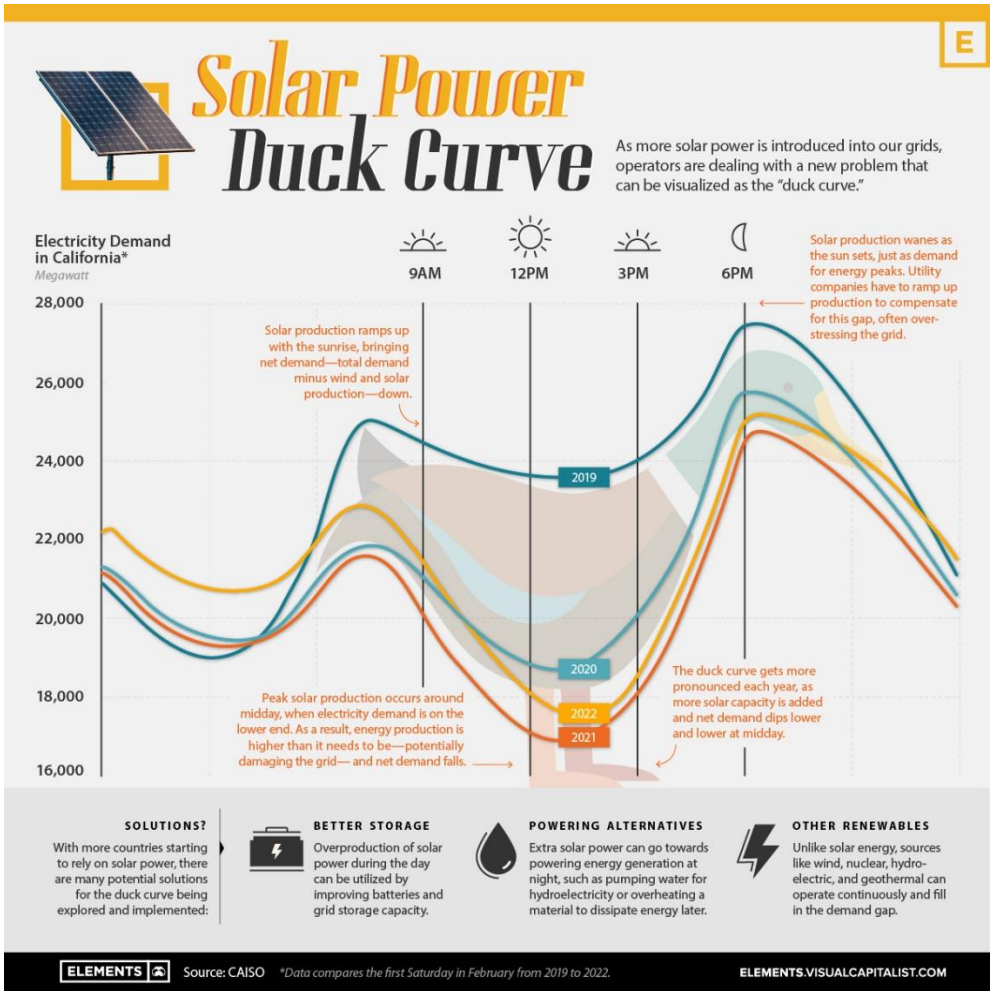


Resource	TOTAL*	FIRM	Capacity Credit
Fossil-Based Generation	5,257	5,257	100%
Hydroelectric	24	13	55%
Solar	4,652	1,264	27%
Wind	5,738	843	15%
Storage and DR	1,581	1,300	82%
Total	17,252	8,678	

*summer net dependable capacity

Solar farms have declining load carrying capability as more and more solar is added in one area and there are also operational challenges with solar as penetration increases. At times there is too much solar available and at other times (when people come home and turn on their dishwasher and electric oven and air conditioner) as the sun is going down, the net load increases dramatically. The early part of the day, when demand is up, is the duck's tail. The middle of the day when demand dips is the belly of the duck. These dips are increasing with the addition of roof top solar. The ramp at the end of the day forms the duck's neck before tapering off in the evening to form the duck's head and beak. The drop at midday creates several problems—solar energy production diminishes as the sun sets, just as demand for energy peaks. Utilities must then ramp up production of electricity quickly. Sources of energy such as coal, gas and nuclear become uneconomic because these generators do not "sell" their electricity during the day when solar is used. However, most of their costs remain the same meaning their per unit costs are higher and they are as a result uneconomic.[13]

[13] There are very good explanations with graphs and some videos on the following websites: Visual Capitalist, https://elements.visualcapitalist.com/the-solar-power-duck-curve-explained/; and Vox, https://www.vox.com/2018/5/9/17336330/duck-curve-solar-energy-supply-demand-problem-caiso-nrel.



The ramp needed in California in 2022 for the midday low to the peak demand in the evening was approximately 13000 MW within three hours. This is an example of why 24/7 dispatchable generation from advanced nuclear and or a new gas plant with carbon capture could be beneficial to Xcel Energy and its customers, as well as to Pueblo.

We also learned that there is a large amount of land needed for 500 MW of solar or wind which means that additional solar in Pueblo may face challenges from an available land perspective.

Energy Type	**Acreage/MW**	**Acreage/500MW**	**ELCC at 500MW in Pueblo**
Utility Solar	7 acres/MW	3,500 acres	11.1% -- 31,531 acres
Wind	45 acres/MW	22,500 acres	19.4% -- 115,979 acres

Pueblo has a total area of 35,893 acres which includes 448 acres of water. While Pueblo County comprises 2.398 square miles, much of that area is taken up by agriculture or current solar.

Constructing additional solar within Pueblo may not be feasible. Furthermore, solar provides very few jobs and very little tax payments.

We have been diligent in our research and understanding of the issues. Some have made the following arguments, but our research indicates these statements are not supported by facts:

- "Xcel Energy can build wind farms in Pueblo." Wind values as measured by National Renewable Energy Laboratory ("NREL") establish that it is not cost effective to build wind farms in Pueblo County.
- "Xcel Energy can build additional large solar farms in Pueblo." Xcel Energy needs geographic diversity for its solar arrays so that cloudy weather does not halt the whole grid.
- "The whole electric system in Colorado should be sun and wind—100% renewable by 2035." The electric grid and large customers, such as EVRAZ, need "dispatchable" generation. Dispatchable generation can be powered on and off and is available 24/7. Solar and wind, while important, are "intermittent" and cannot be relied on when the sun does not shine, and the wind does not blow.
- "Batteries can provide back-up to solar and wind." Long duration batteries are not yet feasible. Similar to carbon capture and advanced nuclear, these technologies are being developed and are not yet at the point of providing enough back-up. Plus, there is the problem of "sourcing" lithium, cobalt, and other rare earth metals.
- "Sun and wind are free and so sun and wind are cheaper than coal and gas and other "dispatchable" generation." As explained above, there is a big difference between "installed" or "nameplate" capacity and "firm capacity."

The electric grid and the generation of electricity are complicated. Simple slogans of "No to nuclear," "No to Natural Gas," "No to Natural Gas and Carbon Capture," and "Yes to 100% Renewables by 2035" do not solve the problems for the grid and do not solve the problem of how to replace high paying long term skilled jobs and property tax payments in Pueblo or other coal communities.

VII. ZERO AND LOW EMISSION TECHNOLOGIES CONSIDERED

The consultants provided us with a large number of new types of electric generation possibilities in Pueblo. Some are close to being technically and financially feasible. Others are not. We looked at Long Duration Storage, Lithium-Ion Batteries, Compressed Air Energy Storage, Thermal Energy Storage, Hydrogen as a Primary Fuel, High Temp Battery Storage, Flow Batteries, Liquid Air Energy Storage, additional Solar, Kinetic energy Storage, Combined Cycle Gas with Carbon Capture, and Advanced Nuclear.

The technical experts, 1898 and Co., have recommended five near term electric generation projects to include in the June 2024 Pueblo Just Transition Plan to replace Comanche 3. While these five projects (Long Duration Energy storage; Lithium-Ion Battery Storage; Compressed Air Energy Storage; Thermal Energy Storage and Clean Hydrogen as primary fuel) provide a few jobs and some tax payments, they will not come close to making Pueblo whole from the loss of Comanche 3—either with long term high paying jobs or property taxes. They also standing alone

do not provide Pueblo with a path to prosper and achieve the ultimate objective of transforming Pueblo into a clean energy hub for a broad array of technology types.

There are, however, exciting new clean or low emission technologies that we studied but are not feasible until after 2031 which is the date by which Comanche must close. As a result, the "Pueblo Just Transition Plan" that will be filed by Xcel Energy in June of next year, will **not** provide a "just transition" for Pueblo. Those technologies will not come close to making Pueblo whole from the damage it will suffer from the closure of Comanche 3.

Xcel Energy will file another Electric Resource Plan in 2026 and again a few years after that. Based on the longer term opportunities that 1898 and Co has analyzed, future Electric Resource Plans might provide a just transition for Pueblo if they prove to be financially and technically feasible and if the community is willing to study the technologies and support them being built in Pueblo. The results of the Keating Poll indicate there is substantial support in Pueblo for a new combined cycle gas plant with carbon capture (74%) as well as advanced nuclear (66%).

In evaluating each technology, we looked at the employment opportunities including the number of jobs and the salary and benefits of those jobs as well as the tax payments. To ensure that we were fairly and consistently evaluating these different technologies, we looked at each generation type based on providing 500 MW of electricity. While Comanche 3 is a 750 MW generation plan, Xcel Energy owns approximately 500 MW of that capacity. Therefore we evaluated each technology on the basis of what number and quality of jobs and property taxes a new 500 MW plant provides to Pueblo. The results were starkly different and are included in the tables on the next page.

By way of example, 500 MW of solar generation produces five to 10 long term jobs with a salary range of $40,000 to $80,000. System reliability for the Xcel Energy grid may not allow for more solar facilities in Pueblo because of the need for geographical diversity for solar facilities.

Burning pure hydrogen provides 20 to 30 jobs with a salary range of $80,000 to $120,000. Combined Cycle Gas with Carbon capture produces 20 to 25 jobs with a salary range of $80,000 to $120,000. Advanced Nuclear produces 200 to 300 jobs with a salary range of $60,000 to $220,000.

The property tax estimates were also starkly different. 500 MW of solar pays $1.69 million a year in property taxes. Hydrogen pays $1.73 million a year in property taxes. Combined Cycle Gas produces $16. 5 million a year in property taxes. Advanced Nuclear pays $95.29 million a year in property taxes.

Each of the five technologies recommended by 1898 and Co (Long Duration Energy storage; Lithium-Ion Battery Storage; Compressed Air Energy Storage; Thermal Energy Storage and Clean Hydrogen as primary fuel) pays no more than $1.694 million a year in taxes. Even a hydrogen facility which used to generate $30,809,206 in annual taxes, now generates only $1.734 million as the result of changes in the tax law under SB21-020.

1 TO 10 JOBS:

	Lithium Ion Battery*	High Temp Battery	Flow Battery	Kinetic Energy	Solar
Long Term	1-5	1-5	1-5	1-5	5-10
Salary	$40-80K	$40-80K	$40-80K	$40-80 K	$40-80K
Property Tax	$1.73M	$1.73M	$1.73M	$1.69M	$1.69M

5 TO 25 JOBS:

	Long Duration Storage*	Thermal Energy Storage*	Liquid Air Energy Storage	Hydrogen Primary Fuel*	Compressed Air Energy Storage*
Long Term	5-15	15-25	5-15	20-30	30-40
Salary	$35-80K	$60-80K	$60-100K	$80-120K	$80-120K
Property Tax	$1.69M	$1.73M	$1.73M	$1.73M	$1.73M

*These five technologies are recommended by 1898 to be included in the Pueblo Just Transition ERP to be filed by June 2024.

20 TO 300 JOBS:

	CCGT with Carbon Capture**	Advanced Nuclear**
Long Term	20-25	200-300
Salary	$80-120K	$60-200K
Property Tax	$16.52M	$95.29M

** PIESAC recommends these two technologies be included in future resource plans and that Xcel Energy begin to create generic modeling to evaluate these two technologies against other technologies and include the proposed definition of Just Transition as a way to quantify these community benefits in evaluation options. The LEEDS study supports our conclusions and recommendations as both of these technologies performed well in the LEEDS study from a community economic benefit perspective (with advanced nuclear being the top performing resource).

To put a finer point on it, the numbers are clear: only advanced nuclear modules will provide high paying skilled jobs and tax base that can replace Comanche 3 and in fact exceed what Comanche 3 provides. A new combined cycle gas with carbon capture is a distant second in providing some employment and taxes but no where near what Comanche 3 currently provides—77 full time employees with over $31 million in annual tax payments.

VIII. PUEBLO'S ECONOMIC CHALLENGES

Pueblo is rich in community spirit and a loyal partner in reducing emissions. Pueblo, however, has a high rate of poverty and a lack of high paying skilled jobs.

Pueblo is one of 64 counties within Colorado. With a Per Capita Personal Income ("PCPI") of $43,196, Pueblo ranks 50th in the state. Pueblo's PCPI is 68% of the state average of $63,776.[14]

[14] The source for the data in this section is from the Bureau of Economic Analysis, U.S. Department of Commerce, an interactive map that displays data based on November 16, 2021 estimates but does not incorporate the results of the 2020 Census. https://apps.bea.gov/regional/bearfacts/countybf.cfm

Personal transfer receipts[15] are 34.7% of the total personal income in Pueblo County. By comparison, Colorado's transfer receipts are 16.6% of total personal income in 2020.

Simply put, there is a huge disparity in Colorado counties of income levels and how many people are receiving government benefits. Counties with the lowest PCPI also have the highest % of Personal Transfer Receipts.

	Aspen – Pitkin County	**Vail – Eagle County**	**Boulder**	**Denver**	**Pueblo**
PCPA	$155,067	$87,872	$79,649	$85,411	$43,196
State Rank – 64 Counties	1st	3rd	6th	5th	50th
Personal Transfer Receipts	6.7%	9.6%	11.9%	12.1%	34.7%

Tatiana Bailey, the executive Director of Data Driven Economic Strategies who prepares the economic dashboard for the City of Pueblo,[16] explained in her October newsletter that there are few high paying jobs available in Pueblo and that Pueblo is not a regarded as a high tech community that attracts high paying jobs and companies.

A quick review of the budget for the city of Pueblo for the last several years shows that sales taxes are down, and that the city has been spending more than it takes in. As a result, the city of Pueblo has been tapping into the reserves in its general fund—an additional $10 million in 2024 so that the general fund will be reduced to $20 million with some of those funds restricted.

The website of Colorado's Office of Just Transition has calculated that the property taxes from Comanche site is 16.1% of the total property taxes collected by the County.[17]

These metrics are important because they show that neither the City of Pueblo nor Pueblo County will have resources to finance additional big projects. That will have to come from the private sector, which is why planning now for replacement generation for Comanche 3 is critical to the economic health and progress of the community. That is why a partnership with Xcel Energy to develop new clean high tech energy within Pueblo is critical so that Pueblo can prosper.

IX. PUEBLO'S COMMITMENT TO REDUCING EMISSIONS

No community in Colorado has made more sacrifices in supporting clean energy and reducing emissions than Pueblo. Pueblo and its legislative representatives agreed to support Clean

[15] Personal transfer receipts include government payments for which no services are provided, such as unemployment, welfare payments, disability, social security, etc. Thus the % of personal transfer receipts of total personal income in a county provides a snapshot of the rates of poverty as well as those on fixed incomes.

[16] https://www.pueblo.us/2820/Economic-Dashboard

[17] https://cdle.colorado.gov/offices/the-office-of-just-transition/coal-in-colorado

Air Clean Jobs in 2010. Using that statute, Black Hills closed all of its coal plants and built new gas plants. That came with a steep cost. The PUC Retail Rate Report concluded that Pueblo residents paid Black Hills 34% more than the statewide average for electricity for their homes and 47% more than Xcel Energy charged its residential customers during the same time period—and that these increased rates were largely the result of replacing the cheap coal generation with new and expensive natural gas generators. Pueblo then agreed in 2017 to the early closure of Comanche 1 and 2 in order to reduce emissions. Pueblo has once again agreed in 2022 to the early closure of Comanche 3.

Pueblo is one of the few communities that has taxed itself to attract new businesses or to expand current businesses. In 1981, largely as a result of the steel industry crash, businessmen and women formed the Pueblo Economic Development Corporation ("PEDCO"), a private not for profit whose sole purposed is the attraction, expansion, and retention of primary jobs in Pueblo County. In 1984, in order to help PEDCO's mission, the voters approved an additional 0.5% city sales tax. Pueblo citizens agreed to tax themselves to set up this fund to attract and expand business to the community. The purpose of PEDCO is to negotiate financial incentives to businesses to locate and or expand within Pueblo. Many businesses do not even bother to apply for the incentives once they see the high electric rates. Companies with high electric needs will not even consider moving to a community with high electric costs. Pueblo enjoys a rich history of manufacturing. These manufacturers have invested heavily in reducing emissions.

No community has made larger sacrifices than Pueblo in reducing emissions and paying the price. None of this is free and Pueblo has paid the price.

The most current emissions data for the Comanche station shows that Pueblo's willingness to close Comanche 1, 2, and 3 is important to the state's goals of reducing carbon emissions. The table below shows the annual CO2 emissions for all 3 units, averaged between the years 2021 and 2022. The state only publishes emission data every two years. Comanche Station (all three units running) accounts for 36.8% of Xcel Energy's emissions and ~20.5% of state emissions.

Comanche EGU Emissions

Entity	**Average from 2021 & 2022 (Tons CO2)**	**% of PSCo**	**% of State (compared to 2020)**
Comanche 1	1,891,211	10.4%	5.8%
Comanche 2	2,317,383	12.8%	7.1%
Comanche 3	2,483,072	13.7%	7.6%
Comanche Station	6,691,666	36.8%	20.5%
PSCo	18,169,793	-	55.8%
State Inventory (2020)	32,568,342		

This chart does not take into account the annual reductions of 3,000 tons of Sulfur Oxides (SOx) nitrogen and 4,300 tons of Nitrogen Oxides (NOx) that the closure of the Comanche Station.

An important question is why should poorer communities, coal communities such as Pueblo shoulder most of the costs of cleaning our air while the wealthier communities continue to build the mega mansions, drive the large SUVs, and fly their private jets? Pueblo's co-operation and commitment to reducing emissions benefits the whole state. This is one of the reasons that we recommend that the loss of jobs and tax base should be included in the financial modeling so that all technologies are compared with all costs included. Pueblo deserves to be rewarded for what it does for the State of Colorado. At this point in time, the best replacement generation to replace the employment and tax base in Pueblo is advanced nuclear.

X. ADVANCED NUCLEAR AND NEW GAS PLANTS WITH CARBON CAPTURE

The United States Department of Energy under President Biden has an "all of the above" energy policy and has established grants and loans for billions of dollars for clean energy including, advanced nuclear, carbon capture and hydrogen. Governor Polis in his Colorado Greenhouse Gas Pollution Reduction Roadmap issued on January 14, 2021 ("Governor Polis Roadmap") also includes an all of the above approach including carbon capture, advanced nuclear and hydrogen.

In the Governor Polis Executive Order dated July 2, 2021, he recognized again the importance of affordability and equity for workers and communities in the pursuit of a low carbon economy as follows: "In the Roadmap, we acknowledge that we must also ensure affordability, equity, just transition for affected workers, high quality job growth, and energy system reliability as we pursue our climate goals."

There are simply no technologies, whether advanced nuclear or new gas plants with carbon capture, which standing alone will provide a just transition for Pueblo workers and for the Pueblo economy. We would have included hydrogen as an option in our recommendations, but the changes in SB21-020 reduced substantially the amount of property taxes that a local community will receive—from $16. 5 million in property taxes. to $1.73 million for a 500 MW facility. The effect of this tax bill on local communities is one of the reasons we are recommending that Xcel Energy provide notice of bills such as this to the committee members and to elected officials.

The advantages of nuclear is that it will provide carbon free energy 24/7 as well as good jobs and property tax payments to Pueblo.

Xcel Energy's two nuclear plants in Minnesota, at Prairie Island and Montecito, provide electricity for 1.5 million households with no carbon emission and avoid 7 million metric tons of CO2, the equivalent of taking 2 million cars off the road, operate in even in extreme weather and provide over $1 billion to the Minnesota economy.

Numerous new and old companies are spending millions of dollars investing in advanced nuclear technologies as well as advanced nuclear including GE, Westinghouse, Terra Power, NuScale and others. Wyoming is proceeding with plans to develop advanced nuclear. While there are currently international challenges to obtain the high enriched uranium used as fuel in the

advance nuclear plants, we believe that those challenges will be solved. The advanced nuclear technologies produce less spent fuel than the current plants. We also believe that the storage issues can be resolved. Other communities in Colorado want to be the home of an advanced nuclear plant. These options deserve to be seriously discussed in the Pueblo community and we hope that this Report can begin the discussion.

We are aware that some in the community are adamantly opposed to a new natural gas plant with carbon capture and are also opposed to advanced nuclear being built in Pueblo. The Democratic party passed a "nuclear free" resolution, and the city of Pueblo passed a 100% renewable resolution by 2035. Pueblo County passed a Clean Energy vision in 2019 which we have included on the website. Rather than using mere slogans, the Pueblo Board of County Commissioners provided detail about its clean energy vision and supported the vision and the opportunity for grants from programs established by President Biden for programs such as advanced nuclear and carbon capture.

The results of the Keating Poll indicate that 63% of Puebloans are concerned about the closure of Comanche 3, and 42% are very concerned. 52% of them have a favorable impression of advanced nuclear and when the tax and job benefits are explained, 66% are in favor of advanced nuclear, and 74% support a new gas plant with carbon capture.

The educators who are on the PIESAC committee described the need to attract high paying and skilled jobs to the community: "An educated community is a safe and healthy community." "There is a symbiotic relationship between business and education. In order to want to go to college, young people have to see a thriving economy with opportunities to work and stay in Pueblo." Another committee member stated: "We need to be bold, not reckless. Pueblo has done big things before, and we can do it again."

After all of the presentations and analysis that we have done over the last ten months, we have each become convinced that the only technologies that have the potential to create good long term family supporting jobs and millions of dollars of property tax payments are advanced nuclear with a new gas and carbon capture running a distant second. We are convinced that these two technologies could establish Pueblo as a leader in the clean energy world and make the words of "Just Transition" meaningful to Pueblo County as opposed to an empty slogan. Next steps are up to Excel Energy and the citizens of Pueblo, and we look forward to a robust discussion of the opportunities for Pueblo.

We make the following specific recommendations to Xcel Energy for their consideration going forward.

XI. RECOMMENDATIONS

1. Use the proposed definition of "just transition" in filings at the PUC and in other relevant forums: "*Just Transition" means that coal communities should not only be no worse off with the closure of coal facilities but also replace the coal generation with high paying and highly skilled jobs and lost tax base so that coal communities have an opportunity to prosper, grow, and reimagine their local economies.*

2. Xcel Energy should develop generic modeling inputs for advanced nuclear as well as new combined cycle natural gas with carbon capture based on reasonable cost assumptions and include modeling runs with and without firm dispatchable options to create resource portfolios that can be compared to one another. The financial losses to coal communities such as Pueblo should be included in the modelling similar to using the Social Cost of Carbon.
3. Xcel Energy should quantify "just transition" impacts for all resource portfolios on an affected community basis to allow for comparisons between potential resource portfolios.
4. Xcel Energy should request that the PUC provide cost recovery for early site analysis and permitting for advanced nuclear generation and carbon capture.
5. Xcel Energy should work with PEDCO and Colorado State University, Pueblo School of Business to develop a model for tracking and measuring Just Transition that can be used to track the improvements or declines of just benefits, similar to the collection of data to measure emission reductions.
6. Recommend that Xcel Energy work with PEDCO, PuebloPlex, the Greater Pueblo Chamber of Commerce, the Latino Chamber of Commerce of Pueblo, and the Colorado Office of Economic Development to help develop and/or attract ancillary clean energy businesses at Comanche and/or PuebloPlex.
7. Request that Xcel Energy inform the members of the committee as well as representatives of the City of Pueblo and the County of any statutory changes that the General Assembly is considering that could affect how the taxes are calculated for zero or low emission technologies.
8. Request that Xcel Energy and labor support the Pueblo County Historical Society in developing materials to preserve the history of Comanche Station and honor the workers at the coal plants.
9. Develop a process to continue the involvement of the PIESAC members to ensure that Just Transitions are implemented at the PUC and in the General Assembly.

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Frances Koncilja, Co-Chair	*Timothy Mottet*
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Sara Blackhurst	*Jeff Shaw*
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