



# Colorado Coal Plant Valuation Study Factsheet

## Background

Across the country, falling costs for renewable energy generation have increased economic pressure for utilities to retire coal plants and in the wake of state legislation that paved the pathway to a renewable energy economy, Colorado is primed for a low-cost, coal-free future. On behalf of the Sierra Club, Strategen conducted an economic analysis to better understand which of Colorado’s coal plants are most suitable for replacement with renewable energy resources. The study also examines the social cost of carbon (SCC) from Colorado’s coal fleet and the impact of using securitization for retiring coal, per provisions in SB19-236, the Sunset Public Utilities Commission Act.

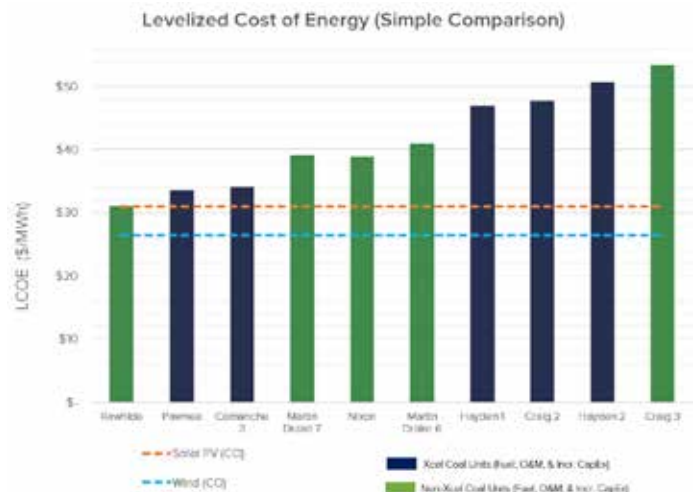
## Key Findings

The 2019 Colorado Coal Fleet analysis found that Colorado utilities, and Xcel Energy in particular, can achieve significant savings for their customers by retiring their coal fleet by 2023 and replacing it with renewable energy.

- Retiring all ten of Colorado’s coal plants that aren’t yet slated for retirement by 2025 would save customers \$1.4 billion if replaced with solar and \$1.7 billion if replaced with wind.
- The most expensive coal units in the state are Craig Units 2 & 3 and Hayden Units 1 & 2.
- When the SCC is included, savings for retiring coal units increase exponentially: \$17.7 billion saved for solar replacement to \$18.7 billion saved for wind replacement.
- Wind generation in Colorado has the greatest potential to produce cheaper energy than coal-fired power,

while solar generation is more competitive than nearly all of the analyzed Colorado coal units, excluding Pawnee and Rawhide.

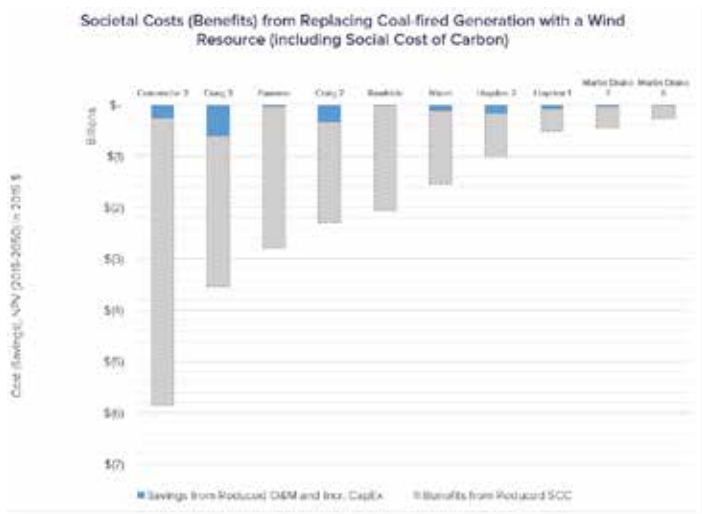
- For Xcel in particular, replacing its share of five remaining coal-fired units would save Xcel customers \$187 million for solar resource replacement to \$360 million for wind resource replacement; savings increase when accounting for SCC.
- Utilizing securitization to facilitate coal plant retirements would save customers an additional \$467 million versus a “business as usual” scenario.



## Social Cost of Carbon (SCC)

The Sunset Public Utilities Commission Act requires the utility to calculate the societal impacts of carbon dioxide emissions from burning fossil fuels, using a minimum value of \$46 per short ton of carbon dioxide emitted in 2020. The social cost of carbon provides a monetary estimate

of the damages wrought by climate change, such as costs associated with wildfires damages or pollution induced illnesses. When the SCC is included, the economic benefits of replacing all coal units in Colorado with solar increase from \$1.4 billion to \$17.7 . Similarly, the savings from replacing all coal units with wind increase from \$1.7 billion to \$18.7 billion when the SCC is considered. Burning coal contributes to a staggering societal expenses and shifting to renewables will not only lower customer electricity bills, but will save our communities from burdening the costs of climate change.



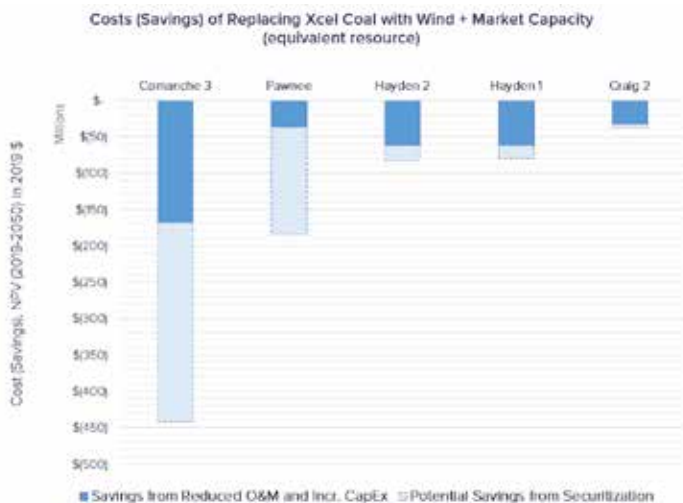
## Xcel

All of Xcel’s coal-fired units in Colorado are more than 38 years old, with the exception of Comanche 3, which started operations in 2010. Replacing Xcel’s five coal-fired units could yield benefits ranging from \$187 million for a solar resource replacement to \$360 million for a wind resource replacement. When accounting for SCC, savings range from \$7 billion for solar replacement to \$7.3 billion for

wind replacement. The savings from retiring Comanche 3 and Pawnee are especially large when accounting for SCC because of two unit’s longer lifetimes under a business as usual scenario.

## Securitization for Xcel

For the five coal units owned by Xcel Energy, an analysis was conducted to determine additional ratepayer benefits that might be achieved through the securitization of the remaining plant balance over a period of 20 years starting in 2023. In total, Xcel customers would save \$467 million when compared to business as usual from securitizing the remaining costs of the five coal units studied here. This is in addition to cost savings of \$187 million for solar replacement option and \$360 million for wind replacement option. The new securitization tool reduces the ratepayer costs of transitioning away from coal while also providing a percentage of savings to transition coal-dependent communities.



**The Sierra Club** is America’s largest and most influential grassroots environmental organization, with more than 3 million members and supporters. In addition to helping people from all backgrounds explore nature and our outdoor heritage, the Sierra Club works to promote clean energy, safeguard the health of our communities, protect wildlife, and preserve our remaining wild places through grassroots activism, public education, lobbying, and legal action.



**Strategen** is a mission-driven professional services company that specializes in strategies for a decarbonized grid. Strategen works across the power sector ecosystem with public sector leaders, global technology corporations, utilities, and project developers to help them achieve their clean energy goals via the firm’s synergistic platforms of consulting, association management, and events.