



# NARUC

National Association of Regulatory Utility Commissioners

## Mitigating Stranded Asset Risks to Utility Customers: an Exploration of Securitization and Retiring Coal Generation

---



*Kathryn Kline  
February 2024*

# Contents

- Executive Summary** ..... 3
- I. Introduction** ..... 5
  - A. Overview of Coal Plant Retirements Trends in the United States..... 5
  - B. Drivers of Accelerated Coal Retirement ..... 8
    - 1. State and Corporate Carbon Reduction Goals ..... 8
    - 2. Federal Emission Reduction Rules ..... 9
    - 3. Competition from Other Sources of Generation ..... 9
- II. Alternative Transition Tools for Early Retirement**..... 10
- III. Securitization Overview**..... 12
  - A. Process for Enabling Securitization (Legislative and PUC Inputs)..... 13
  - B. Critiques of Securitization ..... 15
- IV. State Experience with Securitization** ..... 17
  - A. State Examples of Securitization..... 17
    - 1. Securitization for Early Coal Plant Retirement Cases ..... 18
  - B. Illustrative Securitization Cases for Coal Plant Retirement ..... 21
  - C. Public Utilities Commission Provisions for Transitional Assistance ..... 23
- V. Lessons Learned for Structuring and Implementing Securitization for Coal Retirement**..... 24
- VI. Conclusion**..... 30

## Table of Acronyms

<b>ACC</b> Arizona Corporation Commission	<b>MPSC</b> Michigan Public Service Commission
<b>APS</b> Arizona Public Service	<b>MW</b> Megawatt
<b>CCUS</b> Carbon Capture, Utilization, and Storage	<b>NARUC</b> National Association of Regulatory Utility Commissioners
<b>DOE</b> U.S. Department of Energy	<b>NM PRC</b> New Mexico Public Regulation Commission
<b>EIA</b> U.S. Energy Information Administration	<b>NO<sub>x</sub></b> Nitrogen Oxides
<b>EIB</b> Energy Impact Bond	<b>PNM</b> Public Service Company of New Mexico
<b>EPA</b> U.S. Environmental Protection Agency	<b>PPA</b> Power Purchase Agreement
<b>ETA</b> Energy Transition Act	<b>PUC</b> Public Utility Commission
<b>GW</b> Gigawatt	<b>PSC</b> Public Service Commission
<b>IPP</b> Independent Power Producer	<b>SPV</b> Special Purpose Vehicle
<b>IRA</b> Inflation Reduction Act	<b>SO<sub>2</sub></b> Sulfur dioxide
<b>IRC</b> Internal Revenue Code	<b>U.S.</b> United States
<b>IURC</b> Indiana Utility Regulatory Commission	
<b>LPO</b> Loan Programs Office	

## Acknowledgments

This material is based upon work supported by the Department of Energy under Award Number DE-FE0032095. NARUC thanks the following individuals for their assistance and information in developing this report:

- **Ron Binz**, Independent Consultant
- **Cathy Cole**, Michigan Public Service Commission
- **Ann Eisenberg**, University of South Carolina School of Law
- **Joseph Giove**, United States Department of Energy
- **Indiana** Utility Regulatory Commission Staff
- **Ron Lehr**, Energy Innovation
- **Sam Mardell**, Rocky Mountain Institute
- **Missouri** Public Service Commission Staff
- **North Carolina** Utilities Commission Staff
- **Tom Sarkus**, National Energy Technology Laboratory
- **Danielle Sass Byrnett**, National Association of Regulatory Utility Commissioners
- **Hon. Mary Throne**, Wyoming Public Service Commission
- **Uday Varadarajan**, Rocky Mountain Institute
- **Wisconsin** Public Service Commission Staff
- **Kiera Zitelman**, National Association of Regulatory Utility Commissioners

## Disclaimer

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

## Executive Summary

A variety of factors have impacted utilities' decisions for early coal-fired generation plant closures, including the increase in state carbon reduction goals, federal air quality standards that have required capital-intensive investments to remain in compliance, and growing competition from other energy sources such as low-cost natural gas and renewables. The U.S. Energy Information Administration (EIA) expects coal power plant retirements to continue apace over the next decade. These early coal plant retirements result in stranded assets<sup>1</sup> for utilities, in which the asset being retired has not reached the end of its useful life. As a result, the asset being retired still has undepreciated costs associated with the plant, which it is normally allowed to include in its rates, even though utility customers are no longer benefiting from these units.

Securitization provides one potential tool for addressing early retirement of coal-fired power plants that provides a reduction in costs to utility customers compared with the status-quo scenario. Utilities have used securitization since the late 1990s to recover unique and significant costs for cases such as storm damage recovery, additional pollution control equipment installation, and costs for early nuclear plant retirement. During this time period, approximately \$50 billion in securitized utility bonds have been issued.<sup>2</sup> Securitization is a form of financing that is designed to lower a utility's cost of capital, which results in a reduction in the amount of money its customers will have to repay. This reduction occurs because the interest paid to bondholders is lower than the utility's weighted cost of capital (comprising its borrowing costs and allowed return on equity). The securitization process is a conversion of an asset that is not a tradable financial product into a tradable financial product, or security. In the case of early coal plant retirements, the asset being securitized is the right to receive the flow of payments from rate-paying customers, and the security is a bond that is backed by the flow of ratepayer payments.

Securitization requires enabling legislation. Generally, a Public Utility Commission (PUC) is delegated authority from the state legislatures to conduct activities associated with the regulation of utilities. In order for a utility to issue securitized bonds, the legislature must empower regulators to take the steps necessary to support the issuance of rate payment-backed bonds. This enabling legislation creates protections for ratepayers and investors, which makes the bonds attractive to investors and reduces rates for customers.

After enabling legislation is passed, a utility may apply for a financing order, and the PUC reviews the financing order applications and bond issuance. The PUC helps to shape the terms of the bond and reviews the application to ensure that it is beneficial to utility customers and represents a prudent decision. After a PUC approves a financing order and the bonds are issued, a monthly charge is added to the utility's customers' bills. Funds collected from the monthly charge are collected by the utility company and turned over to a special purpose vehicle (SPV)<sup>3</sup> to make required payments to bondholders. The charges are subject to a periodic true-up to ensure that collected funds satisfy the bond obligation. In some states, the true-up takes the form of a requirement in the financing orders to allow for annual review and adjustment by the PUC to address over- or under- collections. Once obligations to the bondholders are met in full, the charge is removed from customers' bills.

Several states have completed successful securitization for early coal plant retirement projects, which have resulted in consumer savings compared to the costs of "business as usual" early retirement and recovery of undepreciated costs through rates. These projects include securitization of Trenton Channel and St. Clair Units

---

1 Stranded assets are defined as assets which, at some time prior to the end of their service life, as a result of changes in market and regulatory conditions, are not utilized to the level originally foreseen for the purpose of providing the regulated service.

2 Ron Lehr and Mike O'Boyle, "Comparing 2019 Securitization Legislation in Colorado, Montana, and New Mexico," *Energy Innovation*, September 2020, p. 2.

3 A special purpose vehicle (SPV) is an entity separate from the utility company, which will own the future ratepayer charges, issue securitized bonds, and be tasked with bond repayment from proceeds of charges.

and D.E. Karn Units 1 and 2 in Michigan; AB Brown Units 1 and 2 in Indiana; and Asbury Unit 1 in Missouri. Many of these cases were the result of public engagement from stakeholder coalitions concerned with high costs associated with plant retirements. An overview of these projects is included in the following table below.

**Overview of Selected Securitization for Coal Plant Closure Cases**

Plant	State	Bond term	Retirement year	Amount securitized	Estimated savings to customers
D.E. Karn Units 1 & 2 (544 MW)	MI	8 years	2023	\$677.7 M	≈ \$126 M
Trenton Channel (536 MW) & St. Clair generation (1,547 MW) plants <sup>4</sup>	MI	≤ 15 years	2022	\$601.6 M	≈ \$51.5 M
AB Brown Units 1 & 2 (530 MW)	IN	18 years	2023	\$350.125 M	≈ \$60 M
Asbury Unit 1 (200 MW)	MO	15 years	2020	\$82.9 M	≈ \$25 M

Source: author’s construct based on data from Case No. U-21338, Michigan Public Service Commission; Case No. U-21338, Michigan Public Service Commission; Cause No. 45722 Indiana Utility Regulatory Commission; Missouri Public Service Commission Docket No. EO-2022-0040/EO-2022-0193.

Experts have expressed concern that outcomes from securitization efforts for coal plant closures are only as good as the legislation that enables them. Enabling legislation will contain many details that can lead to high-quality bond deals that provide a public benefit. Considerations about the duration, terms, and beneficial outcomes for consumers all help to improve outcomes associated with these projects. Enabling legislation also provides an opportunity for states to consider just transition<sup>5</sup> impacts associated with early coal plant closures and allocate funding from the securitized bond issuance to address these issues, as deemed appropriate by state policymakers. Colorado and New Mexico’s 2019 securitization legislation provide example approaches for considering just transition issues.

Finally, alternative approaches for mitigating the impacts of coal-fired power plant early retirements exist. Whether a state pursues securitization to reduce the impacts of stranded assets from coal plant closures or other mechanisms, depends on the policy goals of the state and the willingness of the legislature to issue enabling legislation. Utilities could also consider federal assistance available through the Inflation Reduction Act (IRA), Section 1706 Loans, to finance projects that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or help enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or greenhouse gas emissions. Tax credits under Internal Revenue Code (IRC) Section 45Q, which were enhanced in the Inflation Reduction Act (IRA) also provide a credit of \$60 – \$85 per /ton of sequestered carbon, reduce the cost of carbon capture technologies, and might enable an alternative to early coal plant retirements if plants can incorporate carbon capture technologies. In addition to financing tools and incentives, utility regulators can use economic regulatory tools, such as accelerated depreciation of stranded assets, to reduce the amount of time customers pay for these shuttered resources, or they can contemplate partial or full disallowances of stranded assets, recognizing that investors have been compensated for all risks in their received equity risk premiums, including risks of early plant retirement and stranded disallowances. While PUCs have the ability to disallow cost recovery for stranded assets, in full or in part, this is a step that should be taken with caution, as investors may then recognize additional risks and demand higher returns for future investments.

4 In the matter of the application of DTE Electric Company for a financing order approving the securitization of qualified costs, June 22, 2023, Case No. U-21338, Michigan Public Service Commission. <https://mi-psc.my.site.com/sfc/servlet/shepherd/version/download/0688y000008CeVZAA0>

5 Just transition refers to the concept of considering the impacts that transitioning to lower-carbon emission energy resources has on affected ratepayers, communities, workforces, and economic development efforts.



This report provides an overview of the securitization process beginning with enabling legislation, and following the process through financing order applications, PUC review and approval, implementation of the financing order, and fund collections and annual true ups. This section also reviews common critiques of securitization and provides additional context for these concerns.

As of 2023, at least 10 states<sup>6</sup> have passed legislation that enables securitization for early coal plant closures, and 13 additional states<sup>7</sup> have enacted broader legislation that allows securitization to be used for disposing of stranded assets.<sup>8</sup> This report reviews financing orders from Michigan, Indiana, and Missouri where utilities have successfully used securitization to reduce the costs associated with early coal plant retirements for customers, and highlights unique aspects from each case. Additionally, this report compiles relevant information from these cases to provide a clearer picture of the outcomes identified from nascent securitization for coal plant closure cases.

## I. Introduction

Coal generation currently accounts for approximately 19.5 percent of electricity generated in the United States, down from 51.7 percent of the generation mix in 2000.<sup>9,10</sup> In 2023, the EIA expects 8.9 gigawatts (GW) of planned retirements of coal-fired capacity.<sup>11</sup> Many of the coal-fired power plant retirements that have already occurred or are planned for the next decade will be plants that have not yet reached the end of their useful life, and are therefore not fully depreciated.<sup>12</sup> Ensuring that utility customers do not face an undue burden in paying for these stranded assets<sup>13</sup> will become an increasingly important issue over the next few years for PUCs overseeing the safety, reliability, and affordability of investor-owned utility service. This report reviews the role that securitization can play in reducing the costs associated with stranded assets due to early coal plant retirements.

### A. Overview of Coal Plant Retirements Trends in the United States

Coal plants are generally not built with a specific planned retirement age. Rather, retirements historically occurred either when the plant operating costs exceed expected revenue, when operating costs exceed the plant's value to the power system, or due to public policy concerns associated with the environmental impacts caused by a coal plant.<sup>14</sup> Policy interventions such as clean energy standards or emissions reductions requirements, which are becoming increasingly common, create an opportunity to reduce emissions, but also impact the economic viability of coal-fired power plants or may dictate retirement outright. In many cases, the marginal cost of energy from new solar and wind plants is below the operating cost of existing fossil fuel plants.<sup>15</sup> Additionally, increased cycling operations of coal plants in response to increased competition

---

6 Colorado, Idaho, Indiana, Kansas, Louisiana, Michigan, Missouri, Montana, New Mexico, and North Carolina have state legislation to enable securitization for early coal plant closures.

7 California, Connecticut, Illinois, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Wisconsin & Texas have legislation allowing securitization for disposing of stranded assets.

8 Aaron Larson, "Understanding How Securitization Can Help with Power Plant Retirements," March 1, 2023, *Power Magazine*. <https://www.powermag.com/understanding-how-securitization-can-help-with-power-plant-retirements/>

9 "What is U.S. electricity generation by energy source?" March 3, 2023, U.S. Energy Information Administration. <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3>

10 "Power Sector Evolution," May 19, 2023, U.S. Environmental Protection Agency. <https://www.epa.gov/power-sector/power-sector-evolution>

11 Elesia Fasching and Suparna Ray, "Coal and natural gas plants will account of 98% of U.S. capacity retirements in 2023," February 7, 2023, *U.S. Energy Information Administration*. <https://www.eia.gov/todayinenergy/detail.php?id=55439>

12 Meaning utilities have not yet collected the full costs of operating the plant from ratepayers.

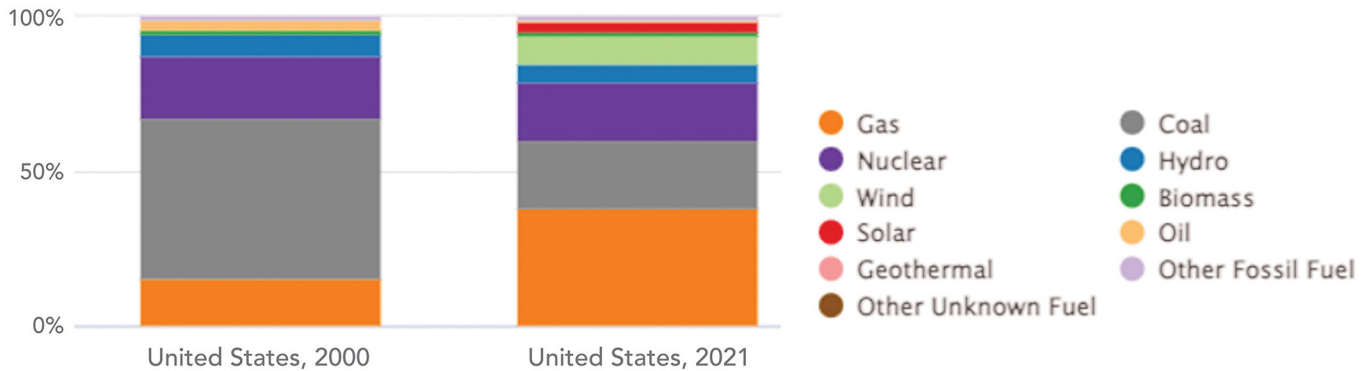
13 Stranded assets are defined as assets which, at some time prior to the end of their service life, as a result of changes in market and regulatory conditions, are not utilized to the level originally foreseen for the purpose of providing the regulated service.

14 David Fritsch, "Of the operating U.S. coal-fired power plants, 28% plan to retire by 2035," December 15, 2021, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=50658>

15 Ron Lehr, "Utility Financial Transition Impacts: From Fossil to Clean," December 2018, *Energy Innovation*. [https://energyinnovation.org/wp-content/uploads/2018/12/From-Fossil-to-Clean-Brief\\_12.3.18.pdf](https://energyinnovation.org/wp-content/uploads/2018/12/From-Fossil-to-Clean-Brief_12.3.18.pdf)

from other fuel sources increase wear-and-tear of plant equipment, and lead to higher marginal energy costs and shorter equipment lifespan.<sup>16</sup> Cycling cost mitigation strategies do exist but require significant capital investment. Recent market developments mentioned above have undercut profitability and consumer benefits of existing coal-fired power plants, and reduced plant owners' willingness to spend on additional maintenance required to operate under these conditions.<sup>17</sup> These price signals create a new economic environment for plant owners where early plant retirements are more frequent.

**Figure 1: U.S. Electricity Mix<sup>18</sup>**



In the past 20 years, the use of coal in the U.S. electricity mix (**Figure 1**) has more than halved: from providing just over 50 percent of all electricity in 2000, to providing 21 percent in 2021.<sup>19</sup> Between 2012 and 2021, coal-fired generation retirement averaged 9.45 gigawatts (GW) annually. According to 2022 EIA projections, by 2029, nearly a quarter of the operating U.S. coal-fired power plant fleet is scheduled for retirement.<sup>20</sup> These planned coal-fired plant retirements impact 24 states, with Indiana, Michigan, Tennessee, and Texas accounting for 42 percent of planned retirements through 2029.<sup>21</sup> During the next six-year period between 2023–2028, industry trackers show an expected 83.4 GW of announced coal plant retirements.<sup>22</sup> **Figure 2** provides an overview of announced and approved coal retirements through 2035 as of January 2024.

Planned retirements continue to focus on relatively older units (as illustrated in **Figure 3**), which face higher operation and maintenance costs, and are less competitive compared to alternative generation options.<sup>23</sup> The average coal-fired generating unit in the United States is 45 years old, and as of 2021, the capacity-weighted average age of coal-fired generators at retirement was 50 years.<sup>24</sup> However, not all coal-fired units slated for retirement are necessarily the oldest units; with units built in the 1980s, 1990s, and 2000s also facing

16 Phillip Graeter and Seth Schwartz, "Recent Changes to U.S. Coal Plant Operations and Current Compensation Practices," January 2020, *Energy Ventures Analysis, Inc. for National Association of Regulatory Utility Commissioners*, p.1. <https://pubs.naruc.org/pub/7B762FE1-A71B-E947-04FB-D2154DE77D45?>

17 Ibid. p. 1

18 Emissions & Generation Resource Integrated Database (eGrid). <https://www.epa.gov/power-sector/power-sector-evolution>

19 "Power Sector Evolution," May 19, 2023, U.S. Environmental Protection Agency. <https://www.epa.gov/power-sector/power-sector-evolution>

20 M Tyson Brown, "Nearly a quarter of the operating U.S. coal-fired fleet scheduled to retire by 2029," November 7, 2023, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=54559>

21 M Tyson Brown, "Nearly a quarter of the operating U.S. coal-fired fleet scheduled to retire by 2029," November 7, 2023, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=54559>

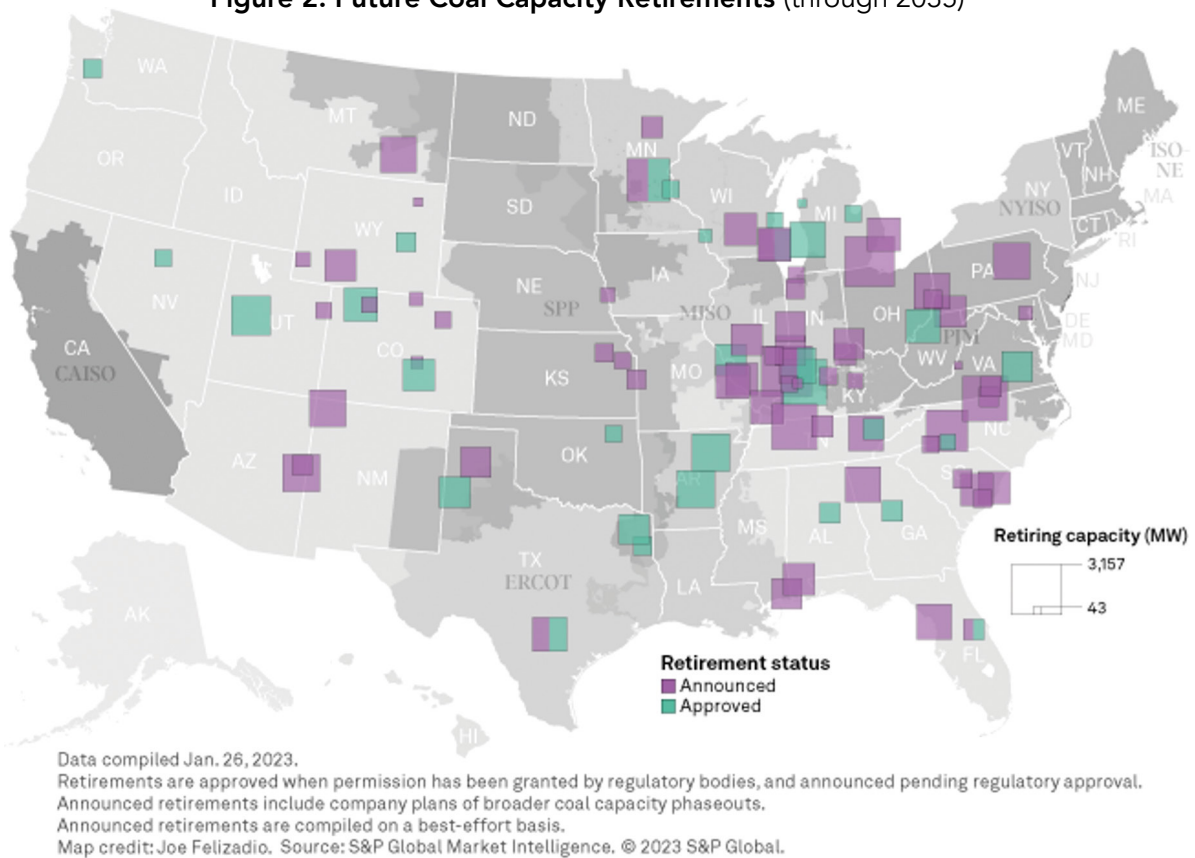
22 "Pace of Coal Retirements Increases Near-Term Reliability Risks," September 21, 2023, *America's Power*. <https://americaspower.org/pace-of-coal-retirements-increases-near-term-reliability-risks/>

23 M Tyson Brown, "Nearly a quarter of the operating U.S. coal-fired fleet scheduled to retire by 2029," U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=54559>

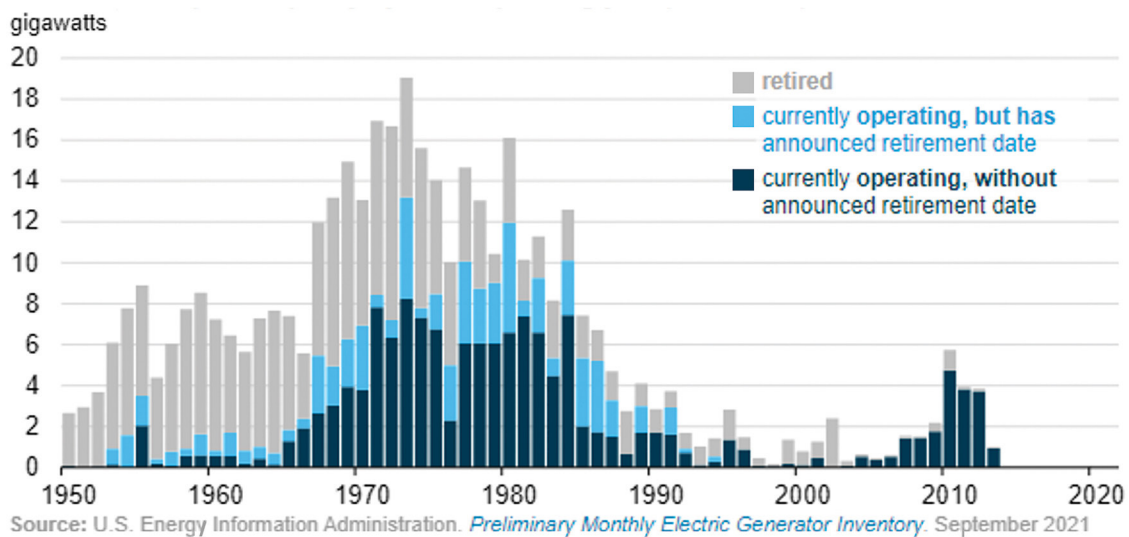
24 David Fritsch, "Of the operating U.S. coal-fired power plants, 28% plan to retire by 2035," December 15, 2021, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=50658>

retirement. These retired plants, and plants with announced retirement dates with more recent initial operating years, pose the issue of creating a stranded asset upon retirement. **Figure 3** provides an overview of U.S. coal generating unit retirements and planned retirements by initial operating year.

**Figure 2: Future Coal Capacity Retirements (through 2035)<sup>25</sup>**



**Figure 3: U.S. Coal Power Plant Capacity by Initial Operating Year (1950–2021)<sup>26</sup>**

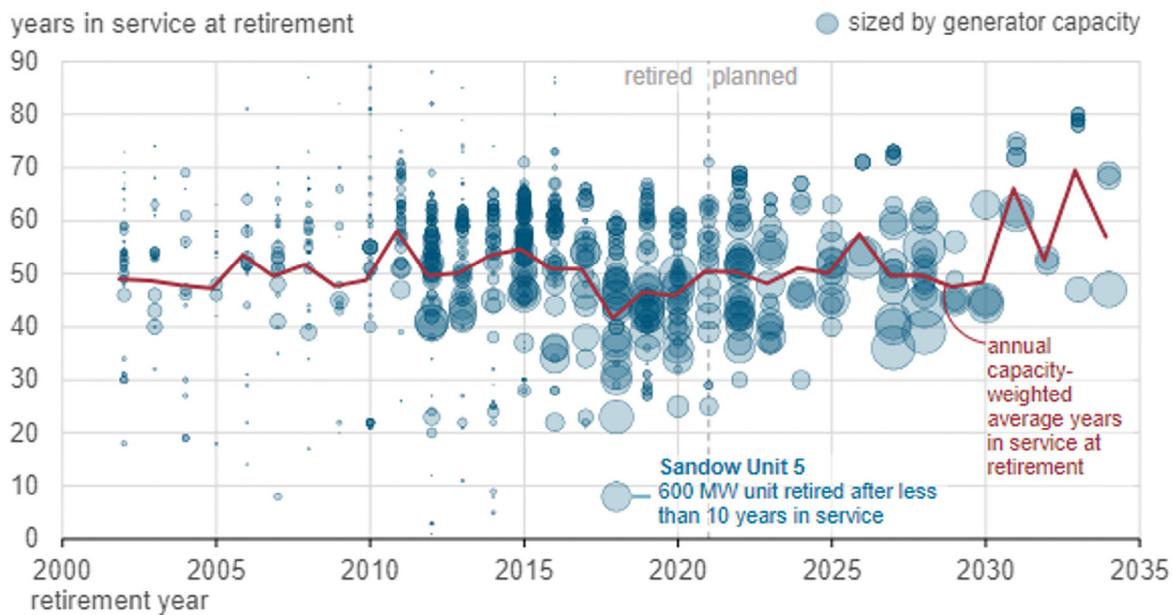


25 Taylor Kuykendall, Darren Sweeney, and Anna Duquiatan, "Inflation Reduction Act to Accelerate US coal plant retirements," February 10, 2023, S&P Global Market Intelligence. <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/inflation-reduction-act-to-accelerate-us-coal-plant-retirements-74196498>

26 David Fritsch, "Of the operating U.S. coal-fired power plants, 28% plan to retire by 2035," December 15, 2021, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=50658>



**Figure 4: U.S. Coal-Fired Electric Generating Unit Retirements and Planned Retirements<sup>27</sup>**



Source: U.S. Energy Information Administration, *Preliminary Monthly Electric Generator Inventory*, September 2021

Figure 4 provides a forward-looking outlook of planned coal-fired retirements through 2035. While the average age of retirement in 2023 is 50, there is notable variability in years in service at retirement between the years of 2010 and 2025.

## B. Drivers of Accelerated Coal Retirement

There are many variables impacting the trend of accelerated coal plant closures throughout the United States. This section highlights three significant trends.

### 1. State and Corporate Carbon Reduction Goals

- Over the past decades, more than two-thirds of states have established renewable portfolio standards, clean energy standards, or zero carbon emissions goals.<sup>28</sup> Twenty-two states plus Washington, DC, and Puerto Rico have 100 percent clean energy goals by dates that range from 2040 to 2050.<sup>29</sup>
- The Regional Greenhouse Gas Initiative is another tool that 11 states are using to reduce carbon emissions designated amounts on an incremental basis over time. California and Washington State also have cap-and-trade systems in place to reduce greenhouse gas emissions.<sup>30</sup>
- Forty-six individual utilities have established voluntary 100 percent carbon-reduction targets.<sup>31</sup>

27 David Fritsch, "Of the operating U.S. coal-fired power plants, 28% plan to retire by 2035," December 15, 2021, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=50658>

28 "Renewable Energy Explained: Portfolio Standards," EIA. <https://www.eia.gov/energyexplained/renewable-sources/portfolio-standards.php>

29 "Table of 100% Clean Energy States," *Clean Energy State Alliance*. <https://www.cesa.org/projects/100-clean-energy-collaborative/guide/table-of-100-clean-energy-states/>

30 "U.S. State Carbon Pricing Policies," May 2021, Center for Climate and Energy Solutions. <https://www.c2es.org/document/us-state-carbon-pricing-policies/>

31 "Utilities' path to a carbon-free energy system," *Smart Electric Power Alliance*. <https://sepapower.org/utility-transformation-challenge/utility-carbon-reduction-tracker/>

- In 2022, voluntary renewable energy procurement deals developed by corporate and institutional customers resulted in 70 percent of the carbon-free capacity added to the grid in that year. These energy procurement deals represent a key force in carbon reduction efforts beyond state policy.<sup>32</sup>

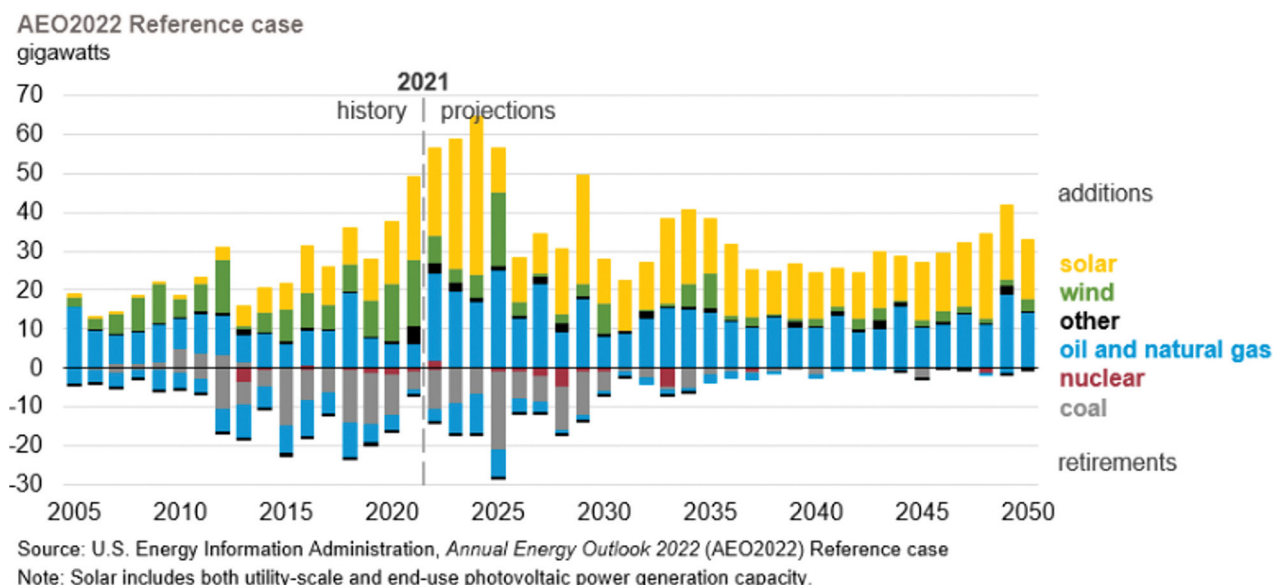
## 2. Federal Emission Reduction Rules

- The Clean Air Act requires fossil fuel-fired electric generating units to reduce emissions of nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and hazardous air pollutants, including mercury (Hg). These rules have resulted in substantial reductions of power plant emissions but have required costly equipment updates.<sup>33</sup>
- In May 2023, the U.S. Department of Environmental Protection (EPA) released proposed new carbon pollution standards for coal-and gas-fired power plants. The proposed standards require a significant reduction in carbon emissions based on control technologies such as carbon capture and sequestration, low-greenhouse gas (GHG) hydrogen co-firing, and natural gas co-firing.<sup>34</sup>

## 3. Competition from Other Sources of Generation

- Continued growth of renewable energy resources—primarily solar and wind—are expected to account for 16 percent of the U.S. total generation in 2023. The EIA expects this increase in renewables to displace natural gas and coal generation in coming years (see **Figure 5**).<sup>35</sup> This transition is being impacted by trends noted above and by economics—the levelized cost of wind energy decreased by 70 percent over the past decade, and the levelized cost of solar has declined by 90 percent during this same period.<sup>36</sup>

**Figure 5: Annual Electricity Generating Capacity Additions and Retirements (GW)**



32 Kevin Hagen, “Customer-driven clean energy procurement, not regulation, is driving decarbonization,” September 25, 2023, *Utility Dive*. <https://www.utilitydive.com/news/corporate-clean-energy-procurement-driving-decarbonization/694566/>

33 “Power Plant Emission Trends,” May 12, 2023, U.S. Environmental Protection Agency. <https://www.epa.gov/power-sector/power-plant-emission-trends>

34 “Fact Sheet: Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants Proposed Rule,” May 2023, U.S. Environmental Protection Agency, <https://www.epa.gov/system/files/documents/2023-05/FS-OVERVIEW-GHG-for%20Power%20Plants%20FINAL%20CLEAN.pdf>

35 Tyler Hodge, “Increasing renewables likely to reduce coal and natural gas generation over the next two years,” January 19, 2023, U.S. Energy Information Administration. <https://www.eia.gov/todayinenergy/detail.php?id=55239>

36 Isabella O’Malley, “Electricity generated from renewables surpassed coal in the U.S. last year,” March 28, 2023, *PBS News Hour*. <https://www.pbs.org/newshour/science/electricity-generated-from-renewables-surpassed-coal-in-the-u-s-last-year>

- Increased cycling operations of coal plants in response to increased competition, intermittency, and/or availability from other fuel sources increase wear-and-tear of plant equipment, and lead to shorter equipment lifespan.<sup>37</sup>

## II. Alternative Transition Tools for Early Retirement

Securitization of costs associated with early coal plant retirement is one option for reducing impacts of early retirements on ratepayers and utilities and may be appropriate depending on the circumstances. Other options may also be appropriate depending on the goals of the state. **Table 1** reviews alternative financing options as well as tax credit and loan opportunities that may support continuation of coal-fired power plants or early retirement options; securitization is discussed in greater detail in sections III and IV.

**Table 1: Alternative Transition Tools for Early Retirement**

Concept	Definition & Opportunity	Example
Accelerated Depreciation	Accelerated depreciation provides an alternative to a straight-line depreciation method that allocates the depreciable costs of an asset evenly throughout its service life. One advantage accelerated depreciation is that only a small allocation of the initial asset value may remain near the end of an asset's life; this is useful in circumstances where estimates of service life are subject to a greater margin of error. <sup>1</sup> Accelerated depreciation reduces the total amount of returns the utility earns on the shortened schedule but increases consumer costs in the short term.	Using accelerated depreciation, a regulator would make judgments about remaining useful life, retirement costs, and site remediation expenses and then determine a shorter recovery period. <sup>2</sup>
Partial or Full Disallowance of Stranded Assets	Regulators can contemplate partial or full disallowances of stranded assets, based on investor compensation for risks in their received equity risk premiums. If a utility made an imprudent decision related to determining plant lifespan, then some stakeholders might suggest that shareholders bear the financial impact of faulty decision making.	During Arizona Public Service Company's 2021 rate case, the AZ Corporation Commission disallowed approximately \$216 million in costs related to the installation of selective catalytic reduction pollution controls on the Four Corners coal plant of the \$400 M+ spent on installation. <sup>3</sup>
IRA Section 1706 Loans	Section 1706 loans enable utilities to access funding to retrofit existing fossil assets to make existing coal plants more efficient or less polluting by supporting upgrades such as carbon management and emission control technologies. Section 1706 also provides funding for environmental remediation. <sup>4</sup> These plant reconfiguring strategies have the benefit of utilizing existing resources at the site such as transmission lines and offer a potential opportunity for ensuring future reliable baseload energy production.	The Department of Energy is interested in the potential for shuttered coal plants to be repurposed for a wide variety of clean energy outcomes, including small modular reactors. <sup>5</sup> In DOE's 2022 study, <i>Investigating Benefits and Challenges of Converting Retiring Coal Plants into Nuclear Plants</i> the study team identified 157 retired coal plant sites that could be potential candidates for coal-to-nuclear transition. <sup>6</sup>

continued

37 Phillip Graeter and Seth Schwartz, "Recent Changes to U.S. Coal Plant Operations and Current Compensation Practices," January 2020, *Energy Ventures Analysis, Inc. for National Association of Regulatory Utility Commissioners*, p.1. <https://pubs.naruc.org/pub/7B762FE1-A71B-E947-04FB-D2154DE77D45?>

Concept	Definition & Opportunity	Example
45Q Tax Credits to Support CCUS Installation	The 45Q tax credit incentivizes CCUS in critical sectors of the economy that are hard to abate and could help to defray costs for installing carbon capture technologies on existing coal fired power plants over the next decade. <sup>7</sup>	The incentive established by the new 45Q tax credits to install CCUS technologies on carbon-emitting plants provides an alternative to early retirement that does not result in stranded assets.

- 1 "Depreciation Expense: A Primer for Utility Regulators," May 2021. VIS Economic & Energy Consultants S.A. under subcontract to the National Association of Regulatory Utility Commissioners, p. 25. <https://pubs.naruc.org/pub.cfm?id=6ADEB9EF-1866-DAAC-99FB-DBB28B7DF4FB>
- 2 Ron Lehr and Mike O'Boyle, "Depreciation and Early Plant Retirements," December 2018, Energy Innovation. [https://energyinnovation.org/wp-content/uploads/2018/12/Depreciation-and-Early-Plant-Retirements-Brief\\_12.3.2018.pdf](https://energyinnovation.org/wp-content/uploads/2018/12/Depreciation-and-Early-Plant-Retirements-Brief_12.3.2018.pdf)
- 3 "Fitch Rates Arizona Public Service Co.'s \$400MM Sr. Unsecured Bonds "A-,"" November 4, 2022, Fitch Ratings. <https://www.fitchratings.com/research/corporate-finance/fitch-rates-arizona-public-service-co-400mm-sr-unsecured-bonds-a-04-11-2022>
- 4 Jigar Shah, "#DeployDeployDeploy:2. The Energy Infrastructure Reinvestment (EIR) Program," September 15, 2022, U.S. Department of Energy, Loan Programs Office. <https://www.energy.gov/lpo/articles/deploydeploydeploy-2-energy-infrastructure-reinvestment-eir-program>
- 5 "DOE Report finds hundreds of retiring coal plant sites could convert to nuclear," September 13, 2022, DOE Office of Nuclear Energy. <https://www.energy.gov/ne/articles/doe-report-finds-hundreds-retiring-coal-plant-sites-could-convert-nuclear>
- 6 "Investigating Benefits and Challenges of Converting Retiring Cal Plants into Nuclear Plants," September 2022, US Department of Energy. <https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/C2N2022Report.pdf>
- 7 "Carbon Capture Provisions in the Inflation Reduction Act of 2022," August 2022, Clean Air Taskforce, <https://cdn.catf.us/wp-content/uploads/2022/08/19102026/carbon-capture-provisions-ira.pdf?>
- 8 Adam Berger, "The Role of R&D in Reducing CCS Costs to Ratepayers," August 30, 2023, Electric Power Research Institute, slide 6, Presentation at 2023 FECM/NETL Carbon Management Research Project Review.
- 9 Miguel Otárola, "Xcel Energy will stop burning coal by 2030. Here's what their plan for clean energy projects in Colorado includes," August 23, 2022, CPR News. <https://www.cpr.org/2022/08/23/xcel-energy-clean-energy-projects/>

### III. Securitization Overview

Although coal-fired generation still plays a consequential role in the United States' collective energy resource mix by providing thermal generation and can provide other grid ancillary services, planned retirements over the next decade and beyond, create a dilemma for utilities and their customers alike: how do utilities retire coal-fired generation (either due to economic or legal reasons) that has not yet reached its useful life—and is therefore, not fully depreciated—without creating an undue burden for customers? These early retirements can cause stranded assets. Stranded assets are defined as assets that at some time prior to the end of their service life, as a result of changes in market, economic, and regulatory conditions, are not utilized to the level originally foreseen for the purpose of providing the regulated service and are thus expected to be unable to fully recover their costs prior to retirement.<sup>38</sup>

Securitization is one possible option to enable early coal-fired generation retirement while ensuring customer costs for these early retirements are lower than they would be in a status-quo scenario where the utilities are allowed to collect a rate of return on the cost of the asset for the duration of its depreciation period. Securitization is a form of financing that is designed to lower a utility's cost of capital, which results in a reduction in the amount of money its customers will have to repay. This reduction occurs because the interest paid to bondholders is lower than the utility's weighted cost of capital (comprising its borrowing costs and allowed return on equity). The securitization process is a conversion of an asset that is not a tradable financial product into a tradable financial product, or security. In the case of early coal plant retirements, the asset being securitized is the right to receive the flow of payments from rate-paying customers, and the security is a bond that is backed by the flow of ratepayer payments.

Like any financial tool, securitization is not a one-size-fits-all solution. Regulators considering securitization should consider the implementation of appropriate checks and balances for ensuring this financial tool is properly implemented to benefit ratepayers.<sup>39</sup> States with previous securitization experience can provide insights into the types of mechanisms that can be implemented to ensure a positive outcome is achieved.

This report does not provide an endorsement for securitization. Rather, it is intended to provide an overview of the factors impacting early coal-fired generation retirement; review the challenges caused by stranded assets; highlight the case for securitization in coal-fired generation retirement; consider alternative mechanisms for reducing utility customer impact from early coal-fired generation retirement; and provide regulators with questions for consideration relating to securitization for early coal plant retirement.

Securitization may be a useful tool for utilities faced with early coal plant closures because it allows for a utility to refinance a utility investment through highly rated bonds at a lower debt rate than the utility's weighted average cost of capital, resulting in lower costs to consumers than if the stranded asset remained in rate base earning the full authorized return on capital.<sup>40</sup> Consumers also save material amounts of payments for utility earnings and taxes due when the utility equity is refinanced with low-cost debt.

In the case of early coal plant retirements, the asset being securitized is the flow of payments from ratepaying customers, and the security is a financial product that investors purchase as a bond that is backed by the flow of ratepayer payments.<sup>41</sup> Utilities can issue high-quality bonds receiving an "AAA" rating, making them

---

38 "Depreciation Expense: A Primer for Utility Regulators," May 2021, VIS Economic & Energy Consultants S.A. for NARUC, p. 30. <https://pubs.naruc.org/pub.cfm?id=6ADEB9EF-1866-DAAC-99FB-DBB28B7DF4FB>

39 Ron Lehr and Mike O'Boyle, "Comparing 2019 Securitization Legislation in Colorado, Montana, and New Mexico," September 2020, *Energy Innovation*. [https://energyinnovation.org/wp-content/uploads/2020/09/Securitization-Brief\\_September-2020.pdf](https://energyinnovation.org/wp-content/uploads/2020/09/Securitization-Brief_September-2020.pdf)

40 Ann M. Eisenberg and Emily Winston, "Securitization of Coal Plant Retirements: Implications for Just Energy Transitions," 2022, *Colorado Environmental Law Journal*, Vol. 33:2, p. 332

41 Joseph S. Fichera, "Managing Electricity Rates Amidst Increasing Capital Expenditures: Is Securitization the Right Tool? An Update," January 2019, *National Regulatory Research Institute*. <https://pubs.naruc.org/pub/34058ED0-1866-DAAC-99FB-B8BC5BCC625C?>



more attractive to investors looking for safe, long-term returns on investments. This safety allows issuers to offer relatively low yields, which can then be passed on as savings to utility customers relative to supporting the company's full weighted average cost of capital on the securitized asset. Utility capital that would have an effective interest rate of 8–10 percent, would translate into a securitized interest rate bond of about 2–4 percent as of 2021.<sup>42</sup> Securitization is not a state-backed bond, so it does not rely on the bonding authority of a state or local government, nor does it rely on government funding or assistance.<sup>43</sup> Nevertheless, the legislation enabling securitization typically includes a commitment by the government that it will take no action to impair the rights of bondholders, referred to as “the state pledge.” Furthermore, enabling legislation normally provides that consumers are obligated to make the payments even if the utility that originally owned the right to payment becomes bankrupt. As a result, utility securitization bonds are viewed by investors as being a less risky investment than other utility bonds; accordingly, investors will accept lower investment returns for securitization bonds than for other utility bonds.

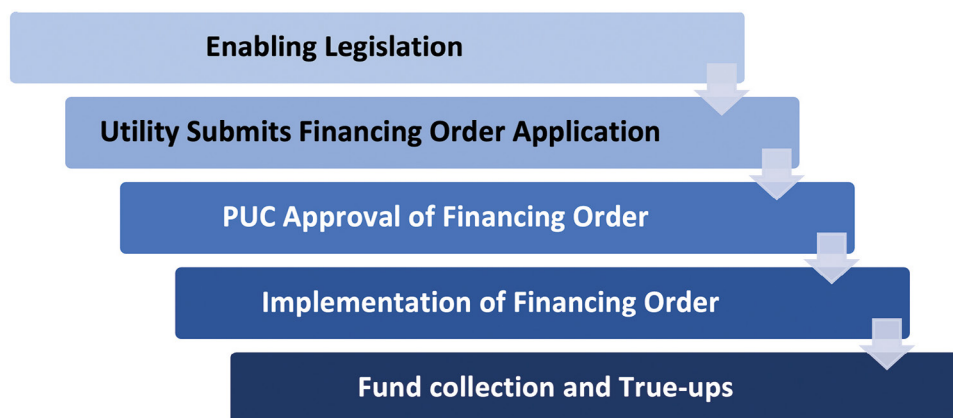
**Figure 6: Uses for Utility Securitization**



### A. Process for Enabling Securitization (Legislative and PUC Inputs)

Securitization establishes a guarantee of customer payments to support the securitized bond product, a process that includes several steps, outlined in **Figure 7**. Based on the experience of ten states, the process typically involves enabling state legislation, financing order, PUC approval of the financing order, implementation of the financing order, fund collections and true-ups.

**Figure 7: Securitization Process**



42 Christian Fong and Sam Mardell. “Securitization in Action: How US States are Shaping an Equitable Coal Transition,” March 4, 2021, Rocky Mountain Institute. <https://rmi.org/securitization-in-action-how-us-states-are-shaping-an-equitable-coal-transition/>

43 Varadarajan, Uday, David Posner, Jeremy Fisher, “Harnessing Financial Tools to Transform the Electric Sector,” November 2018, Sierra Club, p. 12. <https://www.sierraclub.org/sites/default/files/sierra-club-harnessing-financial-tools-electric-sector.pdf>

**Enabling Legislation.** PUCs are delegated authority from state constitutions and legislatures to regulate utilities. In order for utilities to issue securitized bonds that achieve “AAA” ratings from Wall Street, legislatures must empower regulators to take the steps necessary to support the issuance of rate payment-backed bonds that bond rating agencies require. State legislation generally establishes the following parameters:

1. Creates a revenue stream for securitization through the creation of a dedicated and non-bypassable ratepayer charge that includes real-time true-ups to ensure principal and interest payments are made to bond investors.
2. Establishes a special purpose vehicle (SPV) that is separate from the utility company, which will own the future ratepayer charges, issue securitized bonds, and be tasked with bond repayment from proceeds of charges.
3. Specifies that ratepayer charge proceeds are SPV property.
4. Specifies use(s) for securitized bonds (such as coal plant early retirement).
5. Empowers the state PUC to (a) assess the remaining non-depreciated value of the coal plant to determine appropriate bond amounts and (b) set and adjust energy rates to ensure bond repayment.
6. Pledges not to alter this arrangement for the term of the bonds.<sup>44</sup>

**Utility Submits the Financing Order Application.** After the state legislature has passed enabling legislation, a utility may file an application with a state PUC to use securitization. In its financing order application, a utility generally identifies statutory authority for establishing a securitization charge, amounts of qualifying costs for securitization, duration of bond issuance, how the securitization charge will be implemented, and a true-up mechanism, and use of proceeds from charges collected. Some PUCs require utilities to include expected savings to customers in their financing order application.

**PUC Consideration and Approval of the Financing Order Application.**

- Once a utility submits a financing order application, a docket is generally opened to consider the request. Within this docket, the PUC will consider topics such as:
- Whether or not proceeds of securitization bonds will be used solely to refinance or retire debt or equity, or both.
- Whether or not securitization will provide tangible and quantifiable benefits to utility customers.
- What structure and pricing of securitized bonds will result in the lowest securitization charges that are consistent with market conditions and financing order terms.
- If the total amount securitized exceeds the net present value of the revenue requirement over the life of the securitized bond associated with the qualified costs being securitized.<sup>45</sup>

If a utility’s securitization application is approved, the PUC will issue a financing order, which approves the true asset sale to the securitization company, bond issuance, and the utility customer charge.

**Implementation of the Financing Order.** After a utility regulatory commission approves a financing order and the bonds are issued, a monthly charge is added to the utility’s customers’ bills, and a corresponding reduction is ordered in rates previously associated with utility debt and equity replaced by bonds. Consumers benefit from the lower costs to service bonds than previously paid to support utility investment returns, profits, and associated corporate income taxes. The funds from the monthly charge are collected by the utility company and turned over to the SPV to make required payments to bondholders.

44 Varadarajan, Uday, David Posner, Jeremy Fisher, “Harnessing Financial Tools to Transform the Electric Sector,” November 2018, Sierra Club, p. 12. <https://www.sierraclub.org/sites/default/files/sierra-club-harnessing-financial-tools-electric-sector.pdf>

45 Issue Brief: Securitization. June 23, 2021. Michigan Public Service Commission. [https://www.michigan.gov/-/media/Project/Websites/mpsc/consumer/info/briefs/Securitization\\_Issue\\_Brief.pdf?](https://www.michigan.gov/-/media/Project/Websites/mpsc/consumer/info/briefs/Securitization_Issue_Brief.pdf?)

**Funds Collection and True-Ups.** These charges are subject to a true-up to ensure that collected funds satisfy the bond obligation. In some states, this takes the form of a requirement that financing orders include a mechanism to allow for annual review and adjustment by the PUC to address over- or under-collections.<sup>46</sup> Once obligations to the bondholders are met in full, the charge is removed from customer bills.

## B. Critiques of Securitization

Securitization, like many financial tools, has benefits and challenges that decisionmakers will consider when determining whether or not it is the right option for a given situation. The section below reviews some of the common concerns that may come up when considering securitization and provides responses that are typical among stakeholders.

### **Once bonds are negotiated, does the PUC have effective oversight mechanisms for bonds?**

As part of the enabling legislation for securitization, lawmakers establish a dedicated and non-bypassable ratepayer charge. The term “non-bypassable” means that customers in the service territory must pay the charge regardless of what utility is providing service. This feature is a critical component of a ratepayer-backed bond securitization because this guarantee of a stream of payment from utility customers is what ensures a high bond rating, which results in lower financing costs. Moreover, in the enabling legislation, states promise not to alter the terms of the bonds or take actions that would impair their value, a provision known as the “state pledge.” For this reason, it is critical that PUCs closely consider the outcomes of securitization and the public benefits provided prior to approving a securitization financing order. While commissions will require periodic true-ups to ensure that customer charges are sufficient to meet bond repayment obligations, they cannot discontinue bond repayment early or change the terms.

### **Does securitization provide adequate incentives for utilities (compared with the status quo)? What role should the PUC and utility each play in determining whether or not to pursue securitization? Is there an argument for greater PUC engagement in this determination?**

Securitization requires utilities to take the additional step of submitting a financing order application to the PUC and engaging in an application review process and (likely) public participation. While a well-executed securitized bond issuance can represent significant savings to customers over the lifetime of the bond, the status-quo scenario allows the utility to continue collecting a rate of return on the retired asset as part of the utility’s rate base. In this scenario, it might benefit utilities’ shareholders not to pursue securitization of stranded assets, even if this avenue is available. In rate cases where utilities have successfully completed securitization for early coal plant retirements, customer engagement has been key in pushing utilities to pursue securitization as part of larger rate case deals.<sup>47,48</sup> Legislative deal-making<sup>49</sup> and commission requests<sup>50</sup> that utilities consider a variety of options for financing early coal plant closures have also encouraged utilities to consider alternatives such as securitization.

46 Michigan Compiled Laws 460.10k(3) [http://legislature.mi.gov/\(S\(p03bnvdzdouslcoy31fbrv0s\)\)/mileg.aspx?page=getobject&objectname=mcl-460-10k&query=on](http://legislature.mi.gov/(S(p03bnvdzdouslcoy31fbrv0s))/mileg.aspx?page=getobject&objectname=mcl-460-10k&query=on)

47 Matt Helms, “MPSC Oks securitization bonds for Consumers Energy as utility prepares for 2023 retirement of coal-fired generating units,” December 17, 2020, *Michigan Public Service Commission*. <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t000000HwJkAAJ>

48 Consumer Groups Applaud PSC vote to Refinance \$100 Million from Retired Power Plant, November 5, 2020, *Citizens Utility Board of Wisconsin*. <https://cubwi.org/consumer-groups-applaud-psc-vote-to-refinance-100-million-from-retired-power-plant/>

49 Ron Lehr and Mike O’Boyle, “Comparing 2019 Securitization Legislation in Colorado, Montana, and New Mexico,” September 2020, *Energy Innovation*, p. 15.

50 Mark Jaffe, “Xcel Energy wants consumers to pay \$1B to shut down 5 coal-fired power plants. Regulators want more study.” June 13, 2022, *The Colorado Sun*. <https://coloradosun.com/2022/06/13/colorado-energy-regulators/>

### **How are funds allocated—do they stay within communities?**

More recent enabling legislation of securitization for coal plant retirements in states such as New Mexico and Colorado have considered the impact of coal plant closures within communities, and included provisions to ensure that some of the funds from the securitized bonds are earmarked to support communities by providing funding for items such as property tax payments and severance pay and re-training for workers. New Mexico's enabling legislation, the Energy Transition Act (ETA), even addresses considerations for how utilities acquire replacement resources for a retired coal plant. Under this plan, utilities must rank replacement resources under consideration based on cost, economic development potential, and the ability to create jobs with pay and benefits comparable to those at the abandoned facilities. Additionally, during the acquisition process, the ETA attempts to steer jobs and reinvestment into the community of the retired San Juan Generating Station by specifying that replacement resources should be located in the school district of the abandoned facility.<sup>51</sup>

### **Does securitization create intergenerational inequities?**

Longer bond duration reduces annual costs for customers associated with a securitization bill charge, but, arguably, at the expense of future utility customers (this could include young customers, and new utility customers or businesses that have moved into a jurisdiction after a securitized bond issuance). Bond duration is an important consideration for securitization financing orders because the greater the length of the bond, the greater the potential for intergenerational equity issues. The concern with longer securitization recovery term periods is that customers who did not benefit from the generating facility are required to pay for the costs associated with its closure. Additionally, future utility customers who will pay the non-bypassable securitization charge may not be able to participate in public comment associated with a financing order application due to age at the time of the order. It can also be argued that future customers will benefit from earlier adoption of lower cost and, cleaner resources, so they have a stake in refinancing obsolete investments. State commissions are tasked with considering benefits and costs associated with bond duration, and determining what period of time will balance the benefits of a longer duration securitization period with generational equity concerns.

### **How do you ensure the best possible outcomes for securitization?**

Ultimately, securitization is a financial tool, the terms of which vary based on enabling legislation and commission approval of the financing order. Considering the structure of the enabling legislation, such as opportunities for public input and how the terms of the securitized product are negotiated, has a direct impact on the outcome. Section IV of this report provides additional consideration about different approaches to structuring enabling legislation and PUC decision points.

---

51 Energy Transition Act (SB 489), Section 3. [New Material] Location of Resource Development after Abandonment. <https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.pdf>

## IV. State Experience with Securitization

As of 2023, at least 10 states have passed legislation that enables securitization for early coal plant closures, and 13 additional states<sup>52</sup> have enacted broader enabling legislation that allows securitization to be used for managing the costs of stranded assets.<sup>53</sup> **Table 2** provides an overview of state legislation enabling securitization for early coal plant retirements.

**Table 2: State Legislation to Enable Securitization for Coal Plant Closures or Related Costs**

State	Date enacted	Additional purposes*	Coal securitization statutes (implemented)
Colorado	2019	Consumer savings, transition assistance	<a href="#">CO Revised Statutes 40-41-102</a>
Idaho	2001		<a href="#">Idaho Statutes Title 61-1503</a>
Indiana	2021		<a href="#">Indiana Code 8-1-40.5</a>
Kansas	2021	Extreme weather events	<a href="#">K.S.A. 66-1239 &amp; K.S.A. 2020 Supp. 84-9-109</a>
Louisiana	2022	Certain energy transition costs	<a href="#">Louisiana SB 110</a>
Michigan	2000		<a href="#">Michigan Compiled Laws 460.10i</a>
Missouri	2021		<a href="#">Rev. Statutes of MO Section 393.1700</a>
Montana	2019		<a href="#">MCA SECTION 69-1-114</a>
New Mexico		Consumer savings, transition assistance	<a href="#">New Mexico Statutes 62-18-5</a>
North Carolina	2021	Early retirement of subcritical coal plants	<a href="#">North Carolina S.L. 2021-165, Section 5</a> and <a href="#">Commission Rule R8-74</a>
Wisconsin**		Pollution controls associated with coal plants	<a href="#">Wisconsin Statutes Ch. 196.027</a>

\*In addition to enabling coal plant retirement securitization

\*\*Wisconsin allows securitization of pollution control expenses associated with coal plants but does not allow securitization for coal plant closure directly.

Source: author's construct based on legislative and news review

### A. State Examples of Securitization

Several states have experience using securitization to finance the early retirement of coal-fired generation. This section provides a snapshot of three recent cases where utilities have successfully used securitization for the early retirement of coal plants in Michigan, Indiana, and Missouri. These examples highlight unique aspects of each state's process. Additionally, this section reviews two "early coal plant closure-adjacent" securitization examples: for early cancellation of a power purchase agreement in Michigan and to cover costs associated with pollution controls on a coal plant to allow for an early coal plant retirement in Wisconsin. While these securitization cases were not directly related to early coal plant closures, they provide insights that might be useful for consideration in future coal plant closures.

52 California, Connecticut, Illinois, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Wisconsin, & Texas have legislation allowing securitization for disposing of stranded assets.

53 Aaron Larson, "Understanding How Securitization Can Help with Power Plant Retirements," March 1, 2023, *Power Magazine*. <https://www.powermag.com/understanding-how-securitization-can-help-with-power-plant-retirements/>



## 1. Securitization for Early Coal Plant Retirement Cases


The three example cases reviewed below provide insights into what actual securitization for early coal plant retirement scenarios might look like. **Table 3** provides an overview of key metrics from each case followed by further discussion of each.

**Table 3: Overview of Selected Securitization for Coal Plant Closure Cases**

Plant	State	Bond term	Retirement year	Amount securitized	Expected savings to consumers
D.E. Karn Units 1 & 2 (544 MW)	MI	8 years	2023	\$677.7 M	≈ \$126 M
Trenton Channel (536 MW) & St. Clair generation plants (1,547 MW) <sup>54</sup>	MI	≤ 15 years	2022	\$601.6 M	≈ \$51.5 M
AB Brown Units 1 & 2 (530 MW)	IN	18 years	2023	\$350.125 M	≈ \$60 M
Asbury Unit 1 (200 MW)	MO	15 years	2020	\$82.9 M	≈ \$25 M

Source: author's construct based on data from Case No. U-21338, Michigan Public Service Commission; Case No. U-21338, Michigan Public Service Commission; Cause No. 45722 Indiana Utility Regulatory Commission; Missouri Public Service Commission Docket No. EO-2022-0040/EO-2022-0193.

### Michigan

D.E. Karn Units 1 & 2 (544 MW)		
Retirement date	2023	
Total amount securitized	Up to \$677.7 million + \$10.6 million in other qualified costs	
Expected savings to consumers	\$126 million	
In-service dates	1959 & 1961	
Bond term	8 years	
Docket	<a href="#">U-20889</a>	

The Michigan Public Service Commission (MPSC) approved Consumers Energy Company's plan for early retirement of Karn 1 and 2 coal-fired generating units in Bay County in 2019 as part of the company's integrated resource plan. Karn Unit 1 opened in 1959 and Karn Unit 2 opened in 1961. This retirement was part of Consumers Energy Co.'s announced strategy to reach net-zero carbon emissions by 2040. Consumers filed an application in September 2020 under Public Act 142 of 2000, which permits electric utilities to issue securitization bonds to replace higher-cost debts and equity with lower-cost debt.

<sup>54</sup> In the matter of the application of DTE Electric Company for a financing order approving the securitization of qualified costs, June 22, 2023, Case No. U-21338, Michigan Public Service Commission. <https://mi-psc.my.site.com/sfc/servlet/shepherd/version/download/0688y000008CeVZAA0>

This outcome was the result of a robust stakeholder process. When it originally proposed the D.E. Karn plant retirement, Consumers Energy planned to have utility customers pay off the remaining costs associated with the plant’s early closure. Environmental and consumer groups, including the Michigan Environmental Council, National Resources Defense Council, Sierra Club, the Association of Businesses Advocating Tariff Equity, Energy Michigan, Independent Power Producers Coalition, Michigan Chemistry Council, the Michigan Electric Transmission Company, and the Attorney General intervened, and the parties agreed upon a settlement that used securitization to reduce the costs associated with plant closures and pass those savings on to customers.<sup>55</sup> The Michigan PSC approved Consumers Energy’s Co.’s application to issue securitization bonds for costs associated with Units 1 and 2 in December 2020, finding that the securitization issuance would provide approximately \$126 million in cost savings for customers.<sup>56</sup>

**Indiana**

AB Brown Units 1 & 2 (530 MW)	
Retirement date	Late 2023
Total amount securitized	Up to \$350.125 million
Expected savings to consumers	Approximately \$60 million
In-service dates	1979 & 1986
Bond term	18 years
Case number	45722



In January 2023, the Indiana Utility Regulatory Commission (IURC) approved the securitization proposal submitted by Southern Indiana Gas and Electric Company (a CenterPoint subsidiary) for the qualified retirement costs of AB Brown Units 1 and 2. Unit 1 became operational in 1979, and Unit 2 came online in 1986. The IURC approved CenterPoint’s plan to replace both coal-fired units with a natural gas turbine facility in June 2022 as part of an evolving portfolio mix to meet customer needs. It is worth noting that Indiana’s enabling securitization legislation states that the “Commission shall encourage the electric utility to use the proceeds from the securitization bonds for the construction and ownership of clean energy resources.”<sup>57</sup> The IURC approved up \$350,125,000 in securitized expenses over an 18-year term, not to exceed 20 years. The deal was closed on June 29, 2023, with CenterPoint estimating that this deal would save its customers \$52.9 million.

Indiana’s enabling legislation and final order in the AB Brown case have some significant aspects worth highlighting, including the requirement of a reasonable rate reduction mechanism and the IURC’s Bond Team. Ind. Code § 8-1-40.5-10(d)(5) requires the IURC to make a finding that a petitioner has proposed a reasonable mechanism to reflect a reduction in its base rates and charges (upon the assessment of securitization charges on customer bills) and remove any qualified costs from the electric utility’s base rates (to provide timely rate savings for customers).<sup>58</sup> Additionally, the final order designates IURC Commission staff and potentially an IURC Financial Advisor to serve as a “Bond Team” to attend and/or observe meetings related to the structuring,

55 “In the Matter of the application of Consumers Energy Company for approval of its integrated resource plan pursuant to MCL 460.6t and for other relief,” June 7, 2019, *Michigan Public Service Commission*, Case No. U-20165. Pp. 1-3. <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t0000005HSSrAAO>

56 Matt Helms, “MPSC Oks securitization bonds for Consumers Energy as utility prepares for 2023 retirement of coal-fired generating units,” December 17, 2020, *Michigan Public Service Commission*. <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t000000HwJkAAJ>

57 IC 8-1-40.5-10(d)(4)(A)

58 Commission final order on Cause No. 45722, January 4, 2023, p. 38. [https://www.in.gov/iurc/files/ord\\_45722\\_010423.pdf](https://www.in.gov/iurc/files/ord_45722_010423.pdf)

marketing, and pricing of the securitization bonds, and afterwards prepare and issue a report to the IURC concurrent with the submission of the final Issuance Advice Letter by the utility to the IURC, which reports on activities undertaken during the structuring, marketing, and pricing, and the final terms of the securitization bonds to aid the IURC in its review of the final Issuance Advice Letter.<sup>59</sup>

## Missouri

Asbury Unit 1 (200 MW)	
Retirement date	2020
Total amount securitized	Approximately \$82.9 million
Expected savings to consumers	\$25 million*
In-service dates	1970
Bond term	Not to exceed 15 years
Case number	<a href="#">EO-2022-0193</a>
*Based on RMI analysis <a href="https://rmi.org/securitization-in-action/">https://rmi.org/securitization-in-action/</a>	



In September 2022, the Missouri Public Service Commission (PSC) issued a financing order authorizing the Empire District Electric Company (Liberty) to issue securitized tariff bonds to recover energy transition costs associated with retirement of Liberty’s Asbury coal-fired generating plant.<sup>60</sup> Asbury Unit 1 began serving customers in 1970. The Missouri PSC approved Liberty’s plan for approximately \$82.9 million dollars to be financed using securitized utility tariff bonds. Based upon the evidence in the case, the PSC determined that Liberty’s decision (to retire Asbury when it did) was reasonable and prudent. “The facts, as the Commission has found them, demonstrate that Asbury was a 50-year-old coal-fired generating plant that could no longer effectively compete in the electrical generation marketplace,” said the Missouri PSC. “As a result, its continued operation had become uneconomic and a drain on both the company and its ratepayers.”<sup>61</sup>

While the three cases discussed above provide models for more traditional securitization for coal plant closure cases, securitization can also be used to support plant closures in more complex circumstances, which may provide insights for future coal plant closures as well.

### Securitization in Colorado

Colorado is also exploring securitization as one possible option for the early closure of Xcel Energy’s remaining coal plant units in the state (Pawnee Station—Fort Morgan, Craig Units 1 & 2, Comanche Units 2 & 3, and Hayden Units 1 & 2). In Xcel Energy’s 2022 electric resource plan and Clean Energy Plan, Xcel outlined plans to close these units between 2027 and 2031, at an expected cost of \$1 billion. In the plan, Xcel proposed using securitized bonds to finance the closure of Comanche 3 at expected costs of \$732 million. Comanche Unit 3 went into operation in 2010 and has experienced considerable operating and equipment issues resulting in more than 800 days of shutdowns. For the other three units, Xcel Energy proposed using other financing mechanisms such as accelerated depreciation. The Colorado Public Utilities Commission has requested that Xcel Energy analyze additional financing options for all proposed plant closures to address the costs associated with closing units, including securitization.

59 Commission final order on Cause No. 45722, January 4, 2023, p. 71. [https://www.in.gov/iurc/files/ord\\_45722\\_010423.pdf](https://www.in.gov/iurc/files/ord_45722_010423.pdf)


60 MO PSC Docket No. EO-2022-0040/EO-2022-0193 (consolidated), Amended Report and Order, issued September 22, 2022.

61 Ibid. Amended Report and Order, p. 48.

## B. Illustrative Securitization Cases for Coal Plant Retirement

Reviewed next are two cases where securitization was used for early cancellation of a power purchase agreement in Michigan and to cover costs associated with pollution controls on a coal plant to allow for an early coal plant retirement in Wisconsin.

### Michigan – Early Cancellation of Palisades Power Purchase Agreement

Consumers Energy Palisades Nuclear Plant PPA (Securitized bond issuance did not proceed.)		
Proposed termination of contract	2018	
Total amount securitized	Up to \$136.6 million + \$5.5 million in associated transaction costs*	
Savings to consumers	Approximately \$273.3 million*	
In-service date	1971	
Bond term	6 years	
PPA initiation date	2006	
Case number	<a href="#">U-18250</a>	

\* The amounts listed in the table were approved by the Commission for securitization treatment, however, no securitization took place

On February 10, 2017, Consumers Energy Company (Consumers) filed an application with the MPSC seeking a financing order to authorize the issuance of \$184.6 million in securitization bonds for qualified costs associated with a proposed buy-out of the remaining term of a power purchase agreement (PPA) between Energy Nuclear Palisades and Consumers Energy dating to July 2006.<sup>62</sup> This request was the result of a December 2016 agreement between Consumers Energy and Entergy for an early termination of Consumers Energy's PPA with Entergy. Under the proposed agreement, Consumers Energy would pay Entergy \$172 million to buy out the remainder of the PPA and would terminate the agreement in 2018. Consumers Energy and Entergy established the requested amount for securitization based on a determination that the early termination of the PPA would result in \$344 million in savings and splitting that amount in half (so Consumers Energy customers would see savings of \$172 million from the deal).

The Michigan PSC determined that the original amount of projected savings determined by Consumers Energy and Entergy (\$172 million) relied on a number of assumptions, and after reviewing these calculations and applying a higher discount rate, determined that the deal would result in projected savings of \$273.2 million (so a 50/50 savings split would be \$136.6 million). The MPSC approved Consumers Energy's application to securitize costs associated with buying out the Palisades PPA contract, but only authorized Consumers Energy to issue \$136.6 million (plus \$5.5 million in associated transaction costs) in securitization bonds, and not the full \$174 million requested by Consumers Energy.<sup>63</sup>


62 Opinion and Order In the matter of the application of Consumers Energy Company for a financing order approving the securitization of qualified costs and related approvals, September 22, 2017, *Michigan Public Service Commission*, Case No. U-18250. <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t0000001UVQ0AAO>

63 MPSC Issue Brief: Palisades Nuclear Plant, 2017, *Michigan Public Service Commission*. [https://michigan.gov/-/media/Project/Websites/mpsc/consumer/info/briefs/MPSC\\_Issue\\_Brief\\_-\\_Palisades\\_Nuclear\\_Plant.pdf?rev=8aae122123b34af08dd7f2b51dccee3b](https://michigan.gov/-/media/Project/Websites/mpsc/consumer/info/briefs/MPSC_Issue_Brief_-_Palisades_Nuclear_Plant.pdf?rev=8aae122123b34af08dd7f2b51dccee3b)

After the MPSC order authorizing \$136.6 million in securitized bonds, Consumers Energy and Entergy agreed to terminate the buyout transaction, citing the lower-than requested costs approved for securitization, so the securitized bond issuance did not proceed.<sup>64</sup> As a result of this decision, Entergy continued operations of the Palisades Nuclear Plant until spring of 2022, under its current PPA with Consumers Energy.

### Wisconsin – Coal Plant Pollution Controls

D.E. Karn Units 1 & 2 (544 MW)	
Retirement date	2018
Total amount securitized	Up to \$100 million
Savings to ratepayers	Approximately \$40 million
In-service dates	Unit 1: 1980, Unit 2: 1985
Bond term	Not to exceed 15 years
Docket	<a href="#">6630-ET-101</a>



In 2020, We Energies filed an application with the PSC of Wisconsin for a financing order to securitize costs from environmental controls at its retired Pleasant Prairie Power Plant. The decision to securitize costs associated with the Pleasant Prairie Power Plant was a key issue of a 2019 rate case settlement involving We Energies and consumer group intervenors.<sup>65</sup> While Wisconsin state law does not allow for securitization to be used for early coal plant retirement, it does allow for the creation of a trust, which may issue low-cost bonds for the financing of emission-reducing technologies and retired assets.<sup>66</sup> The PSC of Wisconsin approved We Energies’s financing order application to secure up to \$100 million in costs for environmental controls at the retired plant, which is projected to result in \$40 million in savings for customers.<sup>67</sup>

In order to make this determination, the Wisconsin statute requires the PSC to find that the order will result in lower overall costs to customers, that the proposed structuring and expected pricing of the bond will result in the lowest charges consistent with market conditions, and that the order is otherwise consistent with the public interest and is prudent, reasonable, and appropriate.<sup>68</sup>

In the wake of the 2021 announcement about the planned 2026 closure of Columbia Energy Center (the state’s largest coal-fired power plant), consumer advocates began calling for expanded use of securitization to refinance the approximately \$950 million in undepreciated costs that utility customers will continue to pay for through 2038 under a status-quo plan.<sup>69,70</sup>

64 Chris Galford, “Palisades Nuclear Power Plant to continue operations until 2022,” *Daily Energy Insider*. <https://dailyenergyinsider.com/featured/8168-palisades-nuclear-power-plant-continue-operations-2022/>

65 WI PSC Docket 5-UR-109, *Public Service Commission of Wisconsin*. <https://apps.psc.wi.gov/ERF/ERFsearch/content/searchResult.aspx?UTIL=5&CASE=UR&SEQ=109&START=none&END=none&TYPE=none&SERVICE=none&KEY=none&NON=N>

66 Wisconsin statutes Ch. 196.027. <https://docs.legis.wisconsin.gov/statutes/statutes/196/027>

67 Consumer Groups Applaud PSC vote to Refinance \$100 Million from Retired Power Plant, November 5, 2020, *Citizens Utility Board of Wisconsin*. <https://cubwi.org/consumer-groups-applaud-psc-vote-to-refinance-100-million-from-retired-power-plant/>

68 Wisconsin Stat. § 196.027(2)(b)1.

69 Kari Lydersen, “As coal plants close, advocates want relief for Wisconsin Ratepayers,” February 25, 2021, *Energy News Network*. <https://energynews.us/2021/02/25/as-coal-plants-close-advocates-want-relief-for-wisconsin-ratepayers/>

70 Corrine Hess, “We Energies and Alliant Energy coal plants in Wisconsin to stay open longer due to energy supply fears,” June 23, 2022, *Sheboygan Press*. <https://www.sheboyganpress.com/story/money/business/2022/06/23/7705049001/>



## C. Public Utilities Commission Provisions for Transitional Assistance

States such as New Mexico and Colorado have taken additional steps to ensure securitization for early coal plant closures are considered in the context of the impact they will have on local communities. Both states have passed laws that create the ability to use some of the proceeds from securitization to support these communities and their impacted workers. This section reviews just transition provisions in the New Mexico Energy Transition Act (ETA) and the Colorado Energy Impact Bond (EIB) Act.

**New Mexico Energy Transition Act.** In New Mexico, the legislature passed the Energy Transition Act (ETA) in 2019, which enabled the use of securitization for early closure of the San Juan Generating Station and provided transition assistance for impacted communities. The ETA established the Energy Transition Displaced Worker Assistance Fund, which is administered by the Department of Workforce Solutions, and provides financial assistance for projects that assist displaced workers in affected communities.<sup>71</sup> These funds are awarded to communities (such as municipalities, counties, or Indian nations) that provide job training and apprenticeship programs for displaced workers or support programs designed to promote economic development in affected communities.<sup>72</sup>

The ETA specifies that securitized bonds can be the lower of \$375 million or 150 percent of undepreciated investment in an abandoned plant. In addition, the ETA allocates \$30 million for decommissioning, \$20 million for employee severance and job training, and \$300,000 for commission expenses for contract bond counsel to help the New Mexico Public Regulation Commission (NM PRC) review the bond financing order and oversee the structure and marketing of proposed energy transition bonds.<sup>73</sup> To fund these activities, the ETA specifies that utilities must transfer percentages of the financed amount of energy transition bonds at a rate of 1.65 percent for the Economic Development Assistance Fund and 3.35 percent for the Displaced Worker Assistance Fund.

Because of how the ETA is structured, it only enables securitization for San Juan Generating Station, and not New Mexico's other coal-fired generation plants. The ETA represents a compromise for the owner of San Juan Generating Station, the Public Service Company of New Mexico (PNM). PNM had an outstanding investment of \$238 million in San Juan at the time of the plant's closure in 2022.

**Colorado Energy Impact Bond (EIB) Act.**<sup>74</sup> The Colorado legislature enacted the Colorado EIB Act in 2019 as part of SB19-236, which reauthorized the Colorado PUC. The EIB Act focuses on supporting Colorado's carbon reduction goals laid out in the reauthorization legislation, and includes provisions recommended to maximize consumer benefits and emphasize public interest outcomes associated with securitization. Specifically, the EIB Act authorizes utilities to use securitization, grants the Colorado PUC special authority to issue financing orders for utilities to issue bonds and charge customers, requires PUC financing orders to include an adjustment mechanism, and establishes that the PUC's orders are irrevocable.

The Colorado EIB includes a focus on ensuring consumer protection and public interest concerns. Specifically, the EIB requires utilities to include information about estimated cost savings and requires utilities to reduce rates in amounts equal to the revenue requirements associated with assets being refinanced. The EIB authorizes assistance for affected workers and communities to be included in bond financing, pending PUC approval. It also requires the PUC's expert outside counsel and consultants to be included in the financing costs to ensure low transaction costs.

71 N.M. STAT. ANN. § 62-18-16 (2019).

72 "Displaced Workers Development Plan," March 8, 2023, State of New Mexico Department of Workforce Solutions, p. 4. [https://www.dws.state.nm.us/Portals/0/DM/Displaced\\_Worker\\_Plan\\_23-03-28.pdf](https://www.dws.state.nm.us/Portals/0/DM/Displaced_Worker_Plan_23-03-28.pdf)

73 Ron Lehr and Mike O'Boyle, "Comparing 2019 Securitization Legislation in Colorado, Montana, and New Mexico," September 2020, *Energy Innovation*, p. 15. [https://energyinnovation.org/wp-content/uploads/2020/09/Securitization-Brief\\_September-2020.pdf](https://energyinnovation.org/wp-content/uploads/2020/09/Securitization-Brief_September-2020.pdf)

74 COLO. REV. STAT. ANN. § 40-41-102 (2019); see also MO. ANN. STAT. § 393.1705.

In order to issue a financing order, the Colorado PUC must find the following:

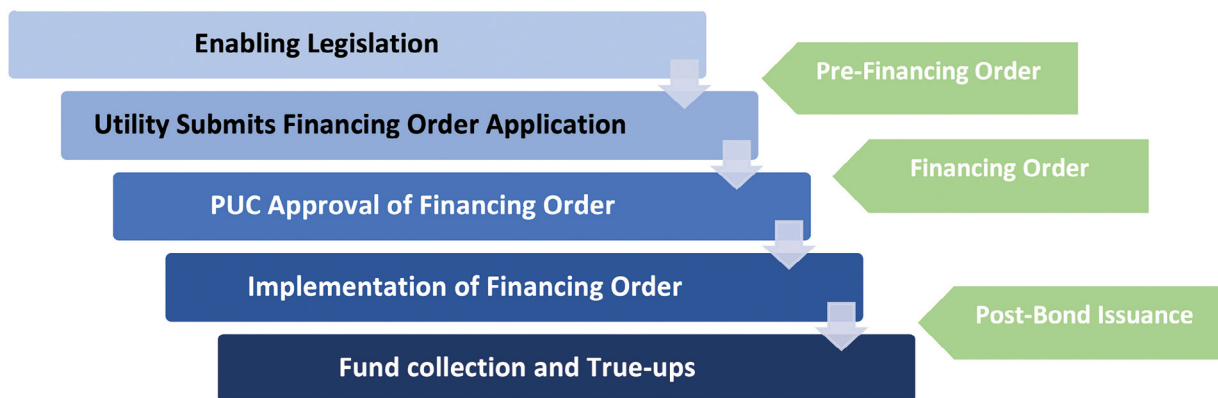
- That retirement costs are reasonable,
- Bond issuance and bond cost collection are just, reasonable, and consistent with the public interest,
- Bonds constitute a prudent and reasonable financing mechanism for the circumstances, and
- The bonds will provide substantial, tangible, and quantifiable net present value savings or other consumer benefits greater than benefits without bond financing.<sup>75</sup>

Additionally, after the Colorado PUC approves a utility's financing order, utilities are required to file information within six months of the bond issuance to ensure transparency. The PUC then reviews the utility's filing to determine whether the bond issuance resulted in the lowest overall costs within reasonable bounds. During this review, the commission may engage outside consultants experienced in bond financing to support the review of costs.

## V. Lessons Learned for Structuring and Implementing Securitization for Coal Retirement

When considering enabling legislation for securitization, there are opportunities for policymakers to structure securitization plans in a manner that is more likely to ensure public-good outcomes and reduce impacts on utility customers. This last section below highlights lessons learned from prior securitization cases during different phases of the process: pre-financing order application, financing order application, and post-bond issuance. These decision points (highlighted in green (in **Figure 8**) indicate points in the securitization process where lessons learned can be applied to potentially improve customer outcomes.

**Figure 8: Opportunities for Policymakers to Structure the Securitization Process**



### Pre-Financing Order

**Authorizing Legislation Scoping.** The scope of authorizing legislation will determine how applicable securitization is for future projects (e.g., is the legislation authorizing securitization of a single coal plant, all coal plants, or any stranded asset?). Authorization can either have broad applicability or the scope can be limited to specific projects. If the scope of authorizing legislation is limited to specific projects, additional legislation may be required for future proposed securitization efforts. Limiting the legislative scope can ensure that securitization is used for purposes that have undergone due consideration but may limit a state's responsiveness for emergency purposes such as storm damage or extreme weather events.

<sup>75</sup> Colorado Energy Impact Bond Act, section 25 of SB19-236.

## Financing Order Application

**Retaining Bond Experts.** Enabling legislation that allows PUCs to retain bond experts with sole loyalty to the PUC helps to ensure that PUCs have adequate expertise to assist in the securitized bond issuance. Utilities employ bond experts in these proceedings who have a fiduciary duty to the utilities, and so it is important that the PUC be able to retain sufficient expertise with a fiduciary duty to the PUC and/or utility customers, to ensure outcomes that do not unduly favor utilities. Bond counsel can help the PUC review financing orders and oversee the structure and marketing of proposed energy transition bonds, and many states included these expenses in the overall costs of the bonds. Some states' enabling legislation caps the amount of money for retaining bond experts as a percentage or a maximum expenditure.<sup>76</sup>

**Enabling Utility Customer Participation.** During the financing order application, a utility has retained experts to ensure that decisions are being made in the utility's best interests. Specifically, bond negotiations tend to focus on the utility and financial institutions participating in the bond structuring. In this scenario, utilities and banks are not incentivized to consider customer's best interests. Ensuring that utility customer representatives are able to engage in the bond negotiations either directly, or through customer advocacy groups' representatives allows customers to have a voice in shaping the terms of the bond deal, which can help to maximize the benefits to utility customers and keep costs in check. Several states include public comment opportunities before a financing order can be approved.<sup>77,78</sup>

**Utility Reporting Requirements.** The information that utilities are required to provide in a financing order application can help provide valuable information for determining whether or not a proposed securitization deal is in the public interest. Utility reporting requirements can include questions such as:

- What are the estimated savings for consumers?
- What are the rate impacts to customers?
- How should rates be reduced to account for securitized bond charges?
- Any additional information about the facility closure, including what costs are associated with decommissioning?

**Bond Duration/Generational Equity Considerations.** When a utility submits a financing order to the PUC to request permission to issue securitized bonds, the utility will include a proposed bond duration. (e.g., The securitized bond will have a scheduled final payment date of 14 years or less, not to exceed 15 years from date of issuance).

Bond duration is an important consideration for securitization financing orders because the greater the length of the bond, the greater the potential for intergenerational equity issues. The concern with longer securitization recovery term periods is that the bond requires customers who did not benefit from the generating facility to pay for the costs associated with its closure. Increasing the bond duration might reduce annual costs for customers associated with a bill charge, but at the expense of younger utility customers.

Conversely, bonds with longer term rates enable lower bond costs on customer bills, and can appeal to long-term investors such as banks, insurance companies, and pension funds.<sup>79</sup>

---

76 The New Mexico Energy Transition Act (SB 489) provides \$300,000 for commission expenses associated with retaining bond counsel.

77 H.B. 19-1037, 2019 Leg. Reg. Sess. (Colo. 2019); H.R. 2110, 2021 Leg., 92nd Sess. (Minn. 2021); MO. REV. STAT. § 393.1700; H.B. 734, 2021 Leg. Reg. Sess. (Mo. 2021).

78 Ann M. Eisenberg and Emily Winston, "Securitization of Coal Plant Retirements: Implications for Just Energy Transitions," 2022, *Colorado Environmental Law Journal*, Volume 33:2, pp. 335-336. <https://www.colorado.edu/law/node/11258/attachment>

79 Ron Lehr and Mike O'Boyle, "Comparing 2019 Securitization Legislation in Colorado, Montana, and New Mexico," September 2020, *Energy Innovation*, p. 12. [https://energyinnovation.org/wp-content/uploads/2020/09/Securitization-Brief\\_September-2020.pdf](https://energyinnovation.org/wp-content/uploads/2020/09/Securitization-Brief_September-2020.pdf)

**Competitive Bidding for Underwriter.** An underwriter is a firm, or group of firms, which purchases bonds directly from a bond issuer and resells them to investors.<sup>80</sup> A PUC's selection of an underwriter should be consistent with the public interest to ensure maximum benefit to utility customers. Therefore, instituting a competitive bidding process in the selection of an underwriter can help to ensure that the selected group is offering beneficial terms to support the transaction.

**Required Commission Findings.** State enabling statutes can require that specific findings are confirmed in order for a PUC to approve a financing order. These findings are generally focused on ensuring that the financing order is in the public interest. Some examples of required PUC findings include:

- Ensuring that the utility has secured the lowest possible rates available based on market conditions,
- The financing order is consistent with public interest, and
- The financing order will provide tangible and quantifiable benefits to utility customers.

### Post-Bond Issuance

**Post-Transaction Utility Reports.** Accountability is critical to successful securitization outcomes, especially given the non-bypassable nature of the securitized bond charge once implemented. For that reason, Colorado requires utilities to file information about the bond issuance within six months. The PUC then reviews information provided by the utility regarding the actual up-front issuance costs of the bonds to determine if the issuance resulted in the lowest overall costs reasonably consistent with market conditions. During this review, the PUC may also disallow incremental up-front costs in excess of the lowest overall costs.<sup>81</sup>

**Annual Rate Impact Report.** Colorado requires utilities with outstanding securitization bonds to file annually with the PUC, to explain the rate impact that securitizing the plant retirement will have on forward-looking customer rates.<sup>82</sup>

Careful consideration of the goals of securitization efforts during each phase of the bond issuance process will help to ensure more deliberative outcomes for all parties. **Table 4** provides a synthesis of lessons learned for different phases of the securitization process based on a review of existing securitization legislation, prior commission securitization cases, feedback from stakeholders and former commissioners, and academic input.

---

80 "Role of the Underwriter in the Municipal Marketplace," September 2008, [presentation] *First Southwest Company Presentation to the State Treasurer's Office of California*, slide 3. <https://www.treasurer.ca.gov/cdiac/seminars/2008/20081002/2c.pdf>

81 C.R.S. 40-41-107 (2) Six Month Review

82 C.R.S. 40-41-109(1)(c)

**Table 4: Lessons Learned from Securitization Cases—Decision Points**

Concept	Description / Applicability	Options	Trade-offs
<b>Pre-financing Order</b>			
<b>Scope of authorizing legislation</b>	The scope of authorizing legislation will determine whether or not securitization can be used for future projects (e.g., is the legislation authorizing securitization of a single coal plant, all coal plants, or any stranded asset?).	<p><b>Case-specific</b> enables securitization of a specific power plant</p> <p><b>Type-specific</b> enables securitization for all projects of a particular type (e.g., early coal retirements, environmental costs)</p> <p><b>Broad</b> could allow a utility to request a financing order for a securitized bond for any purpose</p>	<ul style="list-style-type: none"> <li>- Case-specific authorizing legislation requires additional legislation for future bonds.</li> <li>+ Limiting legislative scope ensures securitization is used for purposes that have undergone due consideration.</li> <li>- Narrow scope limits a state’s responsiveness for emergency purposes.</li> </ul>
<b>Financing Order</b>			
<b>Retaining bond experts</b>	Authority to retain bond experts with sole loyalty to the PUC helps to ensure that PUCs have adequate expertise to review financing orders and oversee the structure and marketing of proposed bonds.	<ul style="list-style-type: none"> <li>• Enabling legislation can cap the amount of money for retaining bond experts as a <b>percentage of the costs or by establishing a maximum expenditure amount.</b><sup>1</sup></li> <li>• Many states included expert expenses in the costs of the bonds.</li> </ul>	<ul style="list-style-type: none"> <li>+ Retaining bond experts with a fiduciary duty to the Commission ensures that customers’ interests are considered during the bond issuance process</li> <li>- Retaining two sets of bond experts increases costs</li> </ul>
<b>Enabling utility customer participation</b>	Bond structuring negotiations tend to focus on utility and financial institutions and may not be incentivized to consider customers’ interests. Ensuring that customer representatives engage in negotiations allows customers to have a voice in shaping the terms. <sup>3</sup>	<p><b>Public Comment</b> opportunities are included in several PUCs’ financing order processes.<sup>2</sup></p> <p><b>Customers or customer advocate groups</b> can engage as intervenors to ensure utility customers’ interests are best met.</p> <p><b>Intervenor Compensation</b> allows for diverse customer participation.<sup>4</sup></p>	<ul style="list-style-type: none"> <li>+ Customers have an opportunity to provide input during the negotiation process, which provides a chance for feedback before the bond is approved.</li> <li>- Inclusion of additional negotiators can extend the time to issue bonds, increasing costs and potentially causing customers to miss the chance to market bonds at the most advantageous time.</li> </ul>

*continued*



Concept	Description / Applicability	Options	Trade-offs
<b>Financing Order</b>			
<b>Utility reporting requirements</b>	Specifying what information utilities must provide in a financing order application can yield valuable input for determining if a securitization deal is in the public interest.	<ul style="list-style-type: none"> <li>• Estimated savings for consumers</li> <li>• Rate impacts to customers.</li> <li>• How should rates be reduced to account for the bond charge?</li> <li>• Information about the facility closure.</li> </ul>	+ Provides additional information to the Commission to consider when determining the prudence of a financing order proposal.
<b>Bond duration/ generational equity considerations</b>	Bond duration is an important consideration for financing orders. Determinations about duration may be impacted by the type of debt being securitized and considerations around which customers should pay for the debt.	<ul style="list-style-type: none"> <li>• <b>Shorter bond duration</b> results in higher monthly costs to customers but lower overall costs.</li> <li>• <b>Longer bond duration</b> results in lower monthly costs to customers over the life of the bond.</li> </ul>	<ul style="list-style-type: none"> <li>+ Longer durations lower monthly costs to customers, &amp; can appeal to long-term investors (e.g., banks, pension funds).</li> <li>- Longer durations require customers who may not have received the full benefit of a facility to pay closure costs.</li> <li>+ Shorter bond duration lowers overall bond costs to utility customers.</li> </ul>
<b>Competitive bidding for underwriter</b>	A firm, or group of firms, that purchases bonds from a bond issuer & resells to investors. A PUC's selection of an underwriter should consider public interest to ensure maximum benefits to customers.	<ul style="list-style-type: none"> <li>• Competitive bidding process.</li> <li>• Underwriter proposed by utility.</li> </ul>	<ul style="list-style-type: none"> <li>+ A competitive bidding process ensures that the selected underwriter presents the best value for customers.</li> <li>- Underwriting utility securitization bonds is a highly specialized field where a low bid does not necessarily equate to better overall value to customers.</li> </ul>
<b>Required commission findings</b>	Enabling statutes can require specific findings to be confirmed in order for a PUC to approve a financing order. These findings are generally focused on ensuring that the financing order is in the public interest.	<ul style="list-style-type: none"> <li>• Utility secured the lowest possible rates based on market conditions.</li> <li>• The financing order is consistent with the public interest.</li> <li>• The order will provide tangible &amp; quantifiable benefits to customers.</li> </ul>	+ Establishing clear requirements that need to be met in order to proceed with a securitized bond issuance can ensure that public-interest metrics are considered throughout the financing order application process.

continued

Concept	Description / Applicability	Options	Trade-offs
<b>Post-bond Issuance Reporting</b>			
<b>Post-transaction utility reports</b>	Some states require utilities to file an overview of the final bond issuance terms within 6 months. The PUC reviews the actual issuance costs to determine if it resulted in the lowest costs reasonably consistent with market conditions.	<ul style="list-style-type: none"> <li>• Bond issuance filing shared with the PUC at a specified interval after completion (e.g., six months).</li> <li>• During this review, the Commission may also disallow incremental up-front costs in excess of the lowest overall costs.<sup>5</sup></li> </ul>	<ul style="list-style-type: none"> <li>+ Additional accountability mechanism helps ensure customers' interests were considered during bond issuance.</li> <li>- Additional filings result in more administrative burden.</li> </ul>
<b>Annual rate impact report</b>	CO requires utilities with current securitization bonds to file annually with the PUC describing the rate impact the bond will have on forward-looking rates. <sup>6</sup>	<b>Require annual rate impact report</b> to ensure Commission has a clear understanding of the impact of securitized bond issuance on customer bills.	+ Accountability mechanism to ensure that bond impacts are considered holistically during other decisions.
<p>1 The New Mexico Energy Transition Act (sb 489) provides \$300,000 for commission expenses associated with retaining bond counsel</p> <p>2 H.B. 19-1037, 2019 Leg. Reg. Sess. (Colo. 2019); H.R. 2110, 2021 Leg., 92nd sess. (Minn. 2021); Mo. Rev. Stat. § 393.1700; H.B. 734, 2021 Leg. Reg. Sess. (Mo. 2021).</p> <p>3 Ann m. Eisenberg and emily winston, "securitization of coal plant retirements: implications for just energy transitions," 2022, colorado environmental law journal, volume 33:2, pp. 335-336.</p> <p>4 "State approaches to intervenor compensation," december 2021, fti consulting, inc. For national association of regulatory utility commissioners. <a href="https://pubs.Naruc.Org/pub/b0d6b1d8-1866-daac-99fb-0923fa35ed1e?">https://pubs.Naruc.Org/pub/b0d6b1d8-1866-daac-99fb-0923fa35ed1e?</a></p> <p>5 C.R.S. 40-41-107 (2) Six month review</p> <p>6 C.R.S. 40-41-109(1)(C)</p>			

## VI. Conclusion

A variety of factors have impacted utilities' decisions to pursue early coal-fired generation plant closures, including state carbon reduction goals, federal air quality standards that have required capital-intensive investments to remain in compliance, and growing competition from other energy sources such as low-cost natural gas and renewables. The EIA expects coal power plant retirements to continue apace over the next decade. These early coal plant retirements result in stranded assets for utilities, in which the asset being retired has not reached the end of its useful life.

Securitization provides one potential tool for addressing early retirement of coal-fired power plants that provides a reduction in costs to utility customers compared with a status-quo scenario and is a form of financing that is designed to lower a utility's borrowing costs, which results in a reduction in the amount of money customers will have to repay. The securitization process is a conversion of an asset that is not a tradable financial product into a tradable financial product, or security.

Securitization requires a state's legislature to pass enabling legislation, which outlines the financial structure for the bond issuance and provides the PUC with authority to issue a financing order. The PUC plays an important role in shaping the terms of the bond and reviews the application to ensure that it is beneficial to utility customers and represents a prudent decision. After a PUC approves a financing order, a monthly charge is added to the utility's customers' bills. Funds collected from the monthly charge are collected by the utility company and turned over to the SPV to make required payments to bondholders. The charges are subject to a true-up to ensure that collected funds satisfy the bond obligation. Once obligations to the bondholders are met in full, the charge is removed from customer bills.

Several states have completed successful securitization for early coal retirement projects, which have resulted in consumer savings. Many of these cases were the result of public engagement from stakeholder coalitions concerned with high costs associated with plant retirements.

Experts have expressed concern that outcomes from securitization efforts for early coal retirements are only as good as the legislation that enabled them. Explicit consideration about the duration, terms, and ensuring beneficial outcome for consumers all help to improve outcomes associated with these projects. Enabling legislation also provides an opportunity for states to consider just transition impacts associated with early coal plant closures and allocate funding from the securitized bond issuance to address these issues as deemed appropriate by state policymakers. Colorado and New Mexico's 2019 enabling securitization legislation provide example approaches for considering just transition issues.

Finally, alternative approaches for mitigating the impacts of coal-fired power plant early retirements exist. Whether a state pursues securitization to reduce the impacts of stranded assets from coal plant closures, or other mechanisms, depends on the policy goals of the state and the willingness of the legislature to issue enabling legislation. Alternatives to securitization include federal support available through IRA, Section 1706 Loans, or Tax credits under IRC Section 45Q or economic regulatory tools, such as accelerated depreciation of stranded assets, to reduce the amount of time customers pay for these shuttered resources or considering partial or full disallowances of stranded assets.

This report examines recent trends in coal closures and reviews regulatory options and federal assistance available for reducing the impact of stranded assets on customers. Although securitization might reduce the impacts of early coal plant retirements on customers, it does not address the issue of reliability. As stakeholders watch a steady flow of early coal-fired power plants retirements, reliability challenges created by this loss of baseload power continue to be a key concern for ensuring safe, reliable, and affordable service to customers. While some of these retiring coal plants are being converted to or replaced by natural gas-fired plants, the

majority of coal plant retirements are not undergoing conversion to other baseload energy generation with lower emissions profiles. Between 2011 and 2019, 49.2 GW of coal-fired capacity had been retired in the United States. Of that capacity, 19.6 GW had the boiler converted to burn natural gas or were replaced with natural gas combined cycles.<sup>83</sup> Over the next decade, retaining existing baseload energy resources or retooling retired coal-fired generation, to ensure energy reliability during this energy transition, will be key to ensuring a reliable energy resource.

---

83 Lindsay Aramayo, "More than 100 coal-fired plants have been replaced or converted to natural gas since 2011," August 5, 2020, *Energy Information Administration*. <https://www.eia.gov/todayinenergy/detail.php?id=44636>



# NARUC

National Association of Regulatory Utility Commissioners

1101 Vermont Ave, NW • Suite 200 • Washington, DC 20005  
[www.naruc.org](http://www.naruc.org) • (202) 898-2200