



OCTOBER 2024

THE DIRTY TRUTH

About Utility Climate Pledges



AUTHORS & ACKNOWLEDGEMENTS

Authors

Cara Fogler, Sierra Club

Noah Ver Beek, Sierra Club

Contacts

Cara Fogler, cara.fogler@sierraclub.org

Noah Ver Beek, noah.verbeek@sierraclub.org

Christine Ho, christine.ho@sierraclub.org

Acknowledgements

We want to thank the donors who generously support the Beyond Coal Campaign, including Bloomberg Philanthropies.

The authors thank the following individuals for their insights and perspectives:

Sachu Constantine, Vote Solar

Brendan Pierpont, Energy Innovation

Maggie Shober, Southern Alliance for Clean Energy

Lauren Shwisberg, RMI

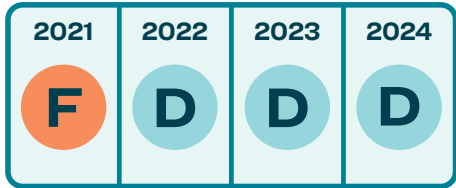
Daniel Tait, Energy and Policy Institute

Sierra Club Beyond Coal Staff

COVER PHOTO: STENLY/ALAMY.COM

KEY FINDINGS

The Dirty Truth About Utility Climate Pledges 2024 Report



The utilities studied scored 29/100 in the Sierra Club's Dirty Truth Report, earning a D. These utilities have only improved their overall score by 12 points since 2021.

THE 50 UTILITIES THAT OWN THE MOST FOSSIL FUEL GENERATION ARE...



Only committed to retiring **30% of their coal generation by 2030.**



Building enough clean energy to replace **52% of their fossil fuel generation by 2035.**



Planning to build **93 GW of new gas by 2035,** even more than last year.



Only 10 of these utilities are committed to reducing their emissions by 80% by 2030,

which science tells us is necessary to limit global warming to 1.5°C.



These 10 utilities with the strongest climate goals receive a combined score of 51, far outperforming the rest.



Utilities without any climate goal score far worse, receiving a 0.



Utilities' failure to appropriately prepare for a clean energy future has led to the timing and cost challenges that many utilities are now trying to use as excuses to remain reliant on fossil fuels. The solutions exist: the IRA and IIJA have provisions to support a clean energy transition. Utilities must make full use of these opportunities to plan for the future.

EXECUTIVE SUMMARY

To address the climate crisis, utilities must transition from fossil fuels to clean energy. We published the first Dirty Truth Report in 2021, evaluating utility plans to transition to clean energy based on their commitments to retire coal, build clean energy, and not build new gas through 2030. In 2021, these utilities failed to plan for the clean energy transition, scoring an aggregate of 17 out of 100.¹ Unfortunately, instead of correcting course, many utilities continue to fail to appropriately prepare for a clean energy future, wasting time as the clean energy transition becomes more urgent. This failure has led to the timing and cost challenges that these companies are now trying to use as excuses to remain reliant on fossil fuels.

The solutions to move away from fossil fuels exist today. Utilities are well positioned to take action with cost reductions in clean energy, strong public support for the clean energy transition, and government support for climate solutions through the provisions in the Inflation Reduction Act (IRA), Infrastructure Investment and Jobs Act (IIJA), and other programs. Furthermore, the Biden administration has committed the US to achieve 100 percent clean electricity by 2035, with an important milestone of 80 percent clean electricity by 2030.^{2, 3} As we approach the final decade leading up to 2035, utilities must take full advantage of clean energy incentives, and regulators and leaders at the local, state, and federal levels must continue pushing utilities to plan for the future we need. As such, our latest Dirty Truth assessment extends the timeline for utilities to build clean energy and not build new gas from 2030 to 2035. This reflects the fact that four years have passed since our first evaluation and aligns our evaluation with the Biden administration's 2035 clean energy target.

After evaluating utilities' plans to 1) retire coal by 2030, 2) build clean energy by 2035, and 3) not build new gas through 2035, we find that utilities score an aggregate of 29 out of 100, just 12 points higher than the first report four years ago.^{4, 5} While this reflects some progress, it is time for utilities to step on the accelerator and make plans to achieve 100 percent clean electricity by 2035.

STUDY SCOPE

50 parent companies that own the most fossil fuel generation, comprised of **75 operating companies, owning half of all remaining coal and gas generation in the US.**

We analyzed their plans, as of July 1, 2024 to:

- 1. Retire coal by 2030**
- 2. Stop building new gas plants through 2035**
- 3. Build clean energy through 2035**

THE IMPORTANCE OF PLANNING

Over the past four years, we have evaluated utility companies' plans for a clean energy transition. This year, even as our grid strains under the impacts of the climate crisis, opportunities for progress abound.⁶ The Inflation Reduction Act (IRA) of 2022 continues to reduce the cost of clean energy while creating hundreds of thousands of jobs.⁷ Solar energy is now often the cheapest form of energy, and wind, solar, and batteries continue to make our grid cheaper, cleaner, and more resilient.^{8, 9} However, we find that many utilities continue to make slow progress transitioning to clean energy, while trying to shift blame away from themselves when they fail to clean up our grid quickly enough.

We must transition away from fossil fuels to keep global warming to below 1.5°C and avoid the worst impacts of climate change; this scientific consensus has been clear for years.¹⁰ Cleaning up the electric sector, including retiring all coal by 2030, is the key to unlocking economy-wide emissions reductions.^{11, 12, 13, 14} Accordingly, in 2021, President Biden committed the US to achieve 100 percent clean electricity by 2035, with an important milestone of 80 percent clean electricity by 2030.^{15, 16}

Since the start of this decade, the support available for utilities to transition to clean energy has improved. In 2022, we saw the largest investment in our climate and clean energy in US history through the IRA, putting hundreds of billions of dollars toward programs to spur the clean energy transition with a focus on communities that have been overburdened by pollution and underserved by federal investments.^{17, 18, 19, 20} The IRA's programs, along with provisions in the Infrastructure Investment and Jobs Act (IIJA, passed in 2021) and other climate policies already in place, could put the US on a path to achieving our national climate goals.²¹

Despite the clear evidence to the contrary, many utilities, the fossil fuel industry, and their allies continue to claim that achieving the US' clean electricity goals while maintaining grid reliability is unrealistic.^{22, 23} In fact, it is utilities' failure to appropriately plan for a clean energy future that has led to the current cost and timing challenges – the same challenges that utilities are now trying to use as an excuse to avoid the pace and scale needed to transition to clean energy. For example, a Federal Energy Regulatory Commission (FERC) Administrative Law Judge recently found that Basin Electric Cooperative's poor planning that failed to assess cheaper alternatives to a coal plant was to blame for exorbitant costs to its captive customers.²⁴ These challenges are not new and would be diminished today with appropriate planning. Utilities have kicked the can down the road for years, giving themselves a narrower window to plan for coal retirement and build the clean energy resources, including generation, transmission, and demand-side options, needed to replace it.

While we can't change the past, we must change the future. Utilities must take concrete steps to improve their planning.

1. As a baseline, every utility should conduct rigorous modeling and generation, demand-side, and transmission planning for the future energy grid.²⁵ Planning should model climate-aligned scenarios, including scenarios that achieve the US' goals of 100 percent clean electricity by 2035 and 80 percent clean electricity by 2030. Without modeling these outcomes, utilities are blind to the possible pathways to achieving them.

2. In that modeling, utilities must accurately model the range of clean energy options available and incorporate the risks of building additional fossil fuels.²⁶ Models must consider a wide range of options to achieve 100 percent clean electricity and reduce costs, including broad regional cooperation, harnessing demand side options (e.g., energy efficiency, demand response, distributed generation), long-duration storage and other clean firm technologies, and options to accelerate transmission build (e.g., reconductoring, etc.) to forecast the potential pathways and costs accurately.
3. Utilities must incorporate the IRA fully in their planning, taking advantage of federal incentives for clean energy like tax credits for up to 50 percent of the cost of clean energy projects such as wind and solar.²⁷ Utilities have not adequately modeled the far-reaching implications of the law, leaving money on the table and increasing costs for customers.²⁸
4. Utilities must increase transparency in their planning processes, allowing for more ideas and solutions to arise and be considered. By restricting access to information and opportunities for public engagement, utilities lose out on input that could help them create plans that better serve their customers.²⁹
5. Utilities must use all-source requests for proposals (RFPs) when they are seeking new resources. When developed well, all-source RFPs allow resources to compete on even ground and assure utilities can select the most cost-effective options to achieve their goals.³⁰
6. Holistic planning should evaluate ways of overcoming barriers to clean energy adoption and reducing customer costs, including maximizing available interconnection points and working with local governments and communities to enable clean energy development.

SLOW UTILITY PROGRESS

We scored utilities based on their plans to (1) retire existing coal generation by 2030, (2) build new gas capacity through 2035, and (3) build new wind and solar generation through 2035. Companies gained points for retiring coal and building clean energy and lost points for expanding gas. Unlike in previous reports, where we evaluated clean energy and new gas planned through 2030, in this report, we extended the evaluation window for gas and clean energy to 2035. This reflects the fact that four years have passed since our first evaluation and aligns our evaluation with the Biden administration’s 2035 clean energy target. Overall, utilities scored 29 out of 100 in this year’s assessment, only 3 points higher than last year, when their score was 26. This is a 12-point improvement since 2021 when the aggregate score was 17 out of 100.³¹

Number (% ³²) of companies with scores that _____ since the first report:		
Improved	Made No Progress	Worsened
49 (65%)	4 (5%)	22 (29%)

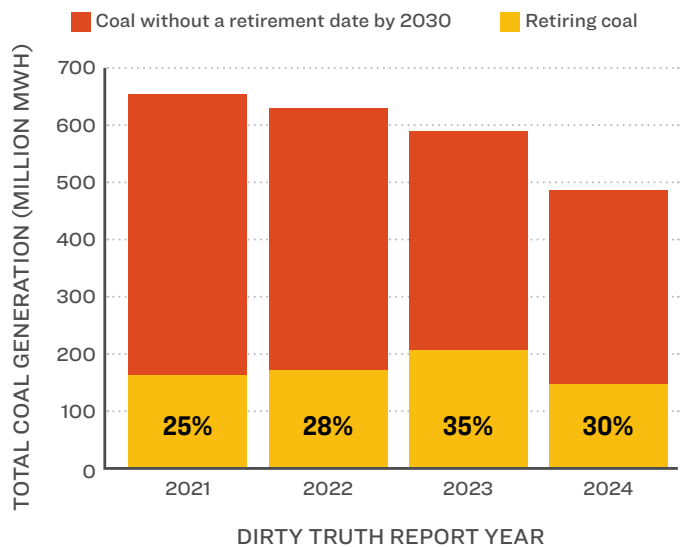
Since 2021, nearly two-thirds of utilities have improved their score, which shows progress, though the overall scores are still low. More concerning, however, one-third of the utilities we studied either made no progress or received a lower score than in our inaugural report. With only a decade left before 2035, utilities must accelerate their planning for a clean energy transition.

COAL

The utilities in our study plan to retire 30 percent of their coal generation (megawatt hours (MWh)) by 2030, or 58 gigawatts (GW) of the 148 GW they own. Analysis shows that coal-fired power plants must be retired by 2030 in advanced economies like the US.³³ Coal is both extremely polluting and often the most expensive way to produce electricity, so retiring the rest of the coal fleet as quickly as possible is an effective way to reduce emissions and lower customers’ bills. Additionally, new carbon pollution standards from the Environmental Protection Agency (EPA) require coal-fired power plants that plan to operate beyond 2032 to control their carbon pollution.³⁴ Despite

these new standards, many utilities that plan to keep coal online beyond 2032 do not outline how they will comply with this standard.³⁵ These utilities plan to keep 70 percent of the remaining coal generation online beyond 2030 despite the high costs of operating coal plants and the associated harmful climate and health implications.³⁶ ³⁷ The percentage of coal generation slated for retirement by utilities in this report actually decreased from last year, the opposite of what should be happening. This decrease is largely due to the number of units that ceased burning coal in the last year, which reduces the total generation planned for retirement. Only 20 of 75 companies (27 percent) plan to be entirely coal-free by 2030. The only utility to join this group since last year is Xcel Texas / New Mexico (a.k.a. Southwestern Public Service Company).³⁸

Figure 1: Coal Retiring by 2030

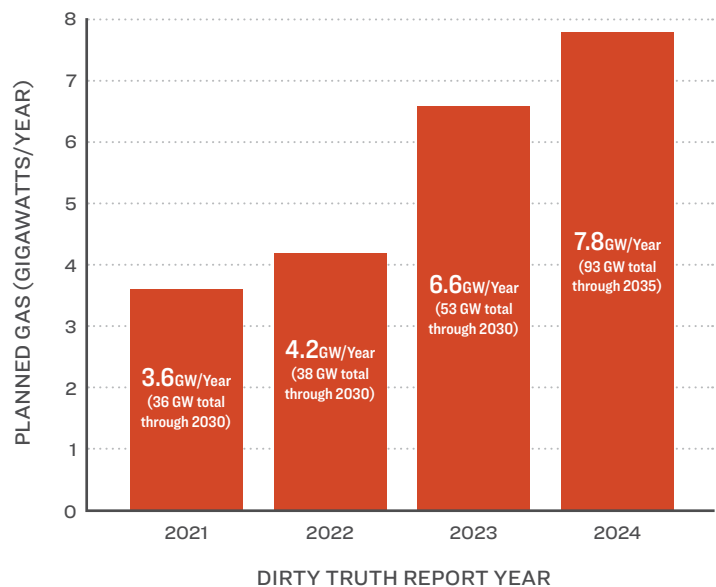


GAS

Utilities are also clinging to fossil fuels by planning to build immense amounts of new gas capacity. Clean energy is cheaper and less risky to own and operate than new gas plants. New carbon pollution standards from the EPA require new baseload gas-fired power plants to control 90 percent of their carbon pollution.^{39,40,41} In light of these standards, which properly hold new gas-fired plants accountable for the greenhouse gas emissions they impose on society, it is even less economic and sensible to build new gas capacity compared to clean energy. Despite this,

56 of 75 operating companies are ignoring the economics and the risks and are planning to build a collective 93 GW of new gas capacity through 2035. This is more companies planning new gas and more planned gas per year than in any previous version of our report.⁴² With a goal of 100 percent clean electricity by 2035, no utilities should be planning to build new gas plants after 2035. Despite this fact, 25 utilities have plans for new gas even after 2035; the parent companies for all of these utilities have a net-zero or carbon-free goal by 2050. This demonstrates a continuation of a troubling trend in this set of utilities that plan to add more uneconomic gas long into the future instead of fully investing in the transition to clean energy.

Figure 2: Annual Planned Gas



CLEAN

Utilities plan to build 626 million MWh of new clean energy through 2035, more annual clean energy additions than any previous report.⁴³ While this is record-setting, it still falls far short of what is needed. This planned clean energy is only enough to replace half of existing fossil generation, not nearly enough to achieve the US' climate goals. This metric compares clean energy to existing fossil fuel generation. With rising demand driven by data centers, electrification, and manufacturing, utilities will likely need to build more clean energy than replacement levels to meet load growth.⁴⁴

These utilities are only planning enough clean energy to replace

52%



of their coal and gas generation by 2035.



BRUNNER ISLAND COAL PLANT IN PENNSYLVANIA
PHOTO: DRNADIG/ISTOCK.COM

UTILITY GREENWASHING

Of the 50 parent companies examined in this study, 43 companies have some form of climate pledge, target, or aspirational goal.

MEANINGFUL CLIMATE GOALS MUST:

- Apply to all subsidiary companies.
- Include regular interim targets, including at least 80 percent emissions reductions by 2030, not just long-term 2050 goals.
- Provide regular updates and a comprehensive plan for achieving the target, backed by concrete planning and procurement commitments.

TARGETS ARE LARGELY INSUFFICIENT

Of the 43 parent companies with a climate pledge of some kind, 29 have goals with milestones in 2030 or earlier. Only 10 companies have goals ambitious enough to meet the US' goal of 80 percent clean electricity by 2030. Some utilities use climate commitments to greenwash their operations without making viable plans to achieve those goals. For example, MidAmerican, a Berkshire Hathaway subsidiary, claimed it has already succeeded in supplying 100 percent of Iowa's electricity demand with renewables.⁴⁵ MidAmerican failed to mention that this was an accounting trick, not a reality of their energy supply, as they continued to run half a dozen coal units in the state and receive a D for their plans to transition away from those fossil fuel sources to clean energy.⁴⁶

MidAmerican Energy announces 100% clean energy for Iowa; still runs six Iowa coal plants

posted on Thursday, October 19, 2023 in Energy News

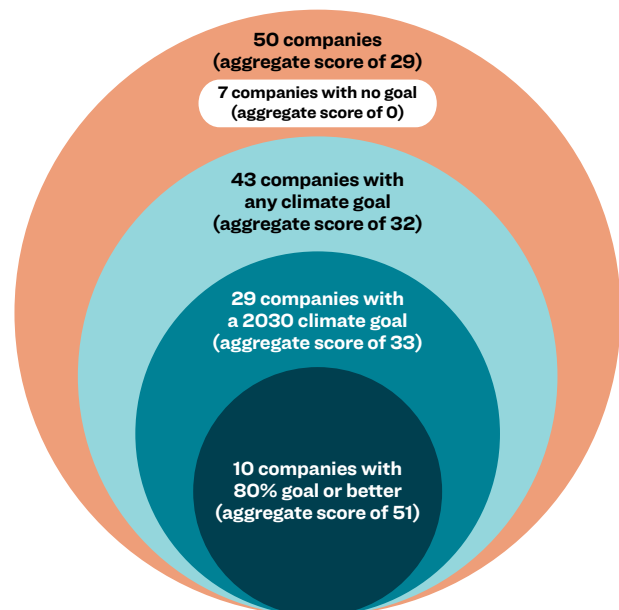
SOURCE: [HTTPS://WWW.IAENVIRONMENT.ORG/NEWSROOM/ENERGY-NEWS/MIDAMERICAN-ENERGY-RUNS-SIX-COAL-PLANTS-IN-IOWA](https://www.iaenvironment.org/newsroom/energy-news/midamerican-energy-runs-six-coal-plants-in-iowa)

Despite 43 parent companies having climate goals, only one parent company, NiSource, parent of Northern Indiana Public Service Company, received an A.⁴⁷ Of the parent companies with climate goals, the majority received a D (19 percent) or an F (33 percent), demonstrating that most utilities have been sluggish in turning commitments into action.

UTILITIES WITH AMBITIOUS TARGETS OUTPERFORM

Although climate goals alone are not leading to sufficient action, parent companies with no climate goals perform even worse in our analysis. These companies receive an aggregate score of zero points, and nearly all receive an F, making no progress compared to last year.⁴⁸ On the other hand, parent companies with goals specifying emissions reductions of at least 80 percent by 2030 outperform others with an aggregate score of 51 points, improving 3 points since last year. Based on our assessment, companies that set strong, near-term goals are taking more action to transition to clean energy; companies that are delaying action try to hide behind general, long-term climate pledges. Rhetorical climate goals only mislead customers and investors if concrete actions do not accompany them.

Figure 3: Parent Company Climate Goals



UTILITIES SHIFT TARGETS FOR BETTER AND WORSE

Multiple utilities have backtracked this year on their previously determined climate targets. For example, FirstEnergy previously had a 30 percent greenhouse gas reduction target by 2030 from a 2019 baseline. In late 2023, FirstEnergy ditched this target, leaving only a lackluster 2050 target. In explaining this decision, FirstEnergy shirked its responsibility for its operations, arguing that it backtracked on this target “since achieving it is not entirely within our control.”⁴⁹ Utilities have justified renegeing on their promises by citing timing and cost concerns; however, current problems are more evidence of the utilities’ failure to plan in the past to take action to avoid these problems. If these utilities had made realistic plans for the actions needed to hit their climate commitments, they would be in a much better position today. On the other hand, DTE has improved its climate commitments over time. In 2017 DTE had a goal of a 45

percent carbon reduction compared to a 2005 baseline by 2030. By 2022, DTE had increased that goal to 65 percent carbon reductions by 2028.⁵⁰ DTE’s improved goals reflect improved planning with their score increasing from an F in earlier assessments to a B this year. Advocates pushed DTE for improved planning, including faster retirement of its coal plants, increased renewables buildout, and an increased distributed generation cap, all of which DTE demonstrated are possible.^{51, 52}



SOURCE: [HTTPS://SUBSCRIBER.POLITICOPRO.COM/ARTICLE/EENEWS/2024/02/12/FIRSTENERGY-DITCHES-2030-CLIMATE-GOAL-TO-KEEP-W-VA-COAL-PLANTS-RUNNING-00140725](https://subscriber.politicopro.com/article/eenews/2024/02/12/firstenergy-ditches-2030-climate-goal-to-keep-w-va-coal-plants-running-00140725)

CONCLUSION

As we approach the last decade leading up to 2035, utilities still need to plan for a transition to clean energy that meets the pace and scale required to achieve broader climate goals. We looked at 75 companies responsible for half of US coal and gas generation. These companies score a 29 out of 100. Worse, even utilities with climate commitments have failed to turn those commitments into actionable plans to reach them. Of the parent companies with climate goals, 51 percent received a D or F. In contrast, only one received an A, showing that these climate goals are mainly greenwashing. Since our first report four years ago, utilities have improved their aggregate score by 12 points. That improvement needs to be faster, and leadership from a handful of utilities demonstrates that

realistic planning for a clean energy transition is possible. We also have strong public and governmental support to bolster utilities’ ability to transition. Utilities can demonstrate how they are planning to reach an 80 percent clean grid by 2030 and a 100 percent clean grid by 2035 proving to their customers that their rhetoric is more than just greenwashing. To do so they must complete rigorous modeling including modeling climate-aligned scenarios that consider a wide range of options to achieve those outcomes, fully incorporate the IRA in their planning, increase transparency in their planning processes, use all-source requests for proposals (RFPs), and evaluate ways to overcome barriers to clean energy adoption.

CASE STUDY: EVERGY COMMITTED TO COAL & GAS

Evergy is failing to plan for a clean energy future, scoring only 13 points out of 100 for its long-term plans. Evergy includes three subsidiary companies and serves 1.7 million customers in east Kansas and parts of western Missouri.⁵³ Evergy has only made plans to retire 9 percent of its coal generation by 2030, leaving it with the 7th most coal generation not committed to retire by 2030 of any parent company in this report. Evergy owns six coal plants, including the Hawthorn plant, which has no proposed retirement date. Located in an environmental justice community in Kansas City, Hawthorn is one of the last coal plants within the borders of a major city in the United States. The plant is a public health, economic, and environmental justice concern to Kansas Citians, especially for the majority low-income and non-white community who live within a three-mile radius of the facility.⁵⁴ In 2021, Evergy proposed to stop burning coal at its Lawrence plant by 2023. However, when it came time, Evergy changed course and now plans to keep burning coal at Lawrence for another five years, when it will then retire Unit 4 and switch Unit 5 to burning gas.⁵⁵ Also in 2021, the Sierra Club provided Evergy with a roadmap to move from coal to clean energy in Kansas, which would save Kansans money and reduce pollution, all while maintaining grid reliability.⁵⁶

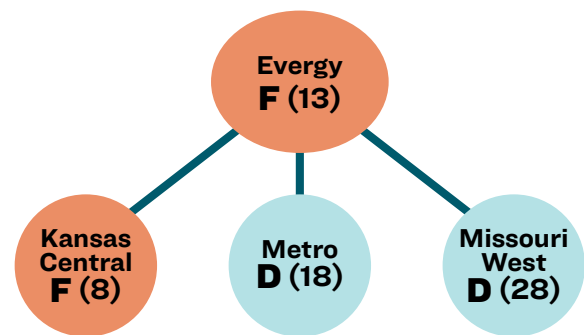
On top of its remaining coal, Evergy plans to build nearly 3 gigawatts (GW) of new gas by 2035 and an additional 3 gigawatts after 2035, long past when utilities should be focused only on clean energy.⁵⁷ This lands Evergy in the top 10 for the largest planned gas buildouts for any utility parent company over these timeframes (9th and 7th for 2035 and beyond, respectively). This is also more planned gas than Evergy proposed in any previous Dirty Truth Report evaluation, demonstrating that Evergy is committing further to fossil fuels when it should be transitioning away from them.

Evergy is planning to build enough clean energy to replace 45 percent of its existing fossil fuel generation. However, by planning to keep coal online and build new gas, Evergy is locking in coal and gas burning for the foreseeable future. Evergy admitted in 2021 when it announced its Sustainability Transformation Plan that the utility has the potential to reduce greenhouse gas emissions 85 percent

by 2030.⁵⁸ Evergy has since reduced that commitment to a 70 percent reduction by 2030.⁵⁹ Evergy should commit to an 85 percent reduction by 2030 and commit to the closure of additional coal plants required to meet this goal.

Evergy's choices hurt consumers. Evergy is the electricity provider in Kansas City, one of the most energy-burdened cities in the US, especially in low-income, Black, and Latino communities.⁶⁰ Evergy's poor planning has led to rate increases in its service territory in recent years while the utility refuses to act to support local climate goals or coal retirement.⁶¹

Figure 4: Scores for Evergy and its subsidiaries



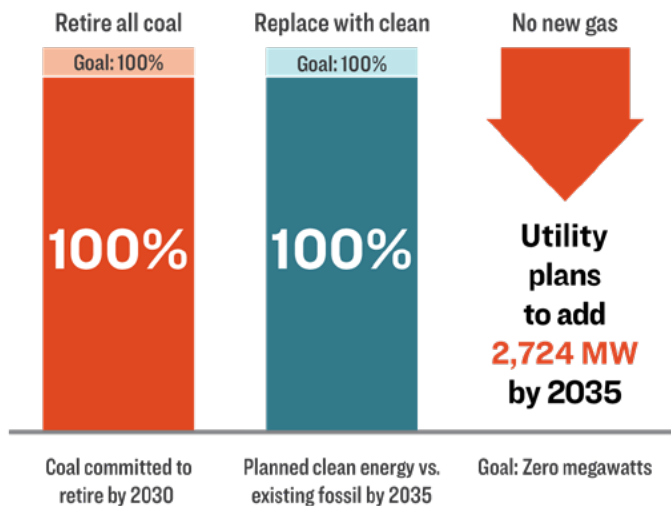
#7 for most coal generation without a retirement date by 2030.

#9 for most planned gas capacity through 2035.

Evergy can do better. Evergy should push state regulators to expand the Kansas and Missouri Energy Efficiency Investment Acts (KEEIA and MEEIA) to replace expensive coal with smart investments on the customer side of the meter like energy efficiency, demand response, and storage. Kansas ranks near the bottom nationally for energy efficiency spending and savings.⁶² Evergy must also engage with large customers like Panasonic, Google, and Microsoft, all of which have carbon reduction goals, to ensure their new demand is supporting clean energy and not saddling residential customers and small businesses with increased rates.^{63, 64, 65} Even with potential increases in demand, Evergy can make a transition to clean energy.⁶⁶ Evergy must create a viable plan to retire coal, stop the planned gas buildout, and recommit to building clean energy at the scale and pace needed.

CASE STUDY: XCEL MINNESOTA'S LEADERSHIP THREATENED BY GAS BUILDOUT

XCEL MINNESOTA/WISCONSIN GETS AN **A** for its clean energy transition plan



Xcel Minnesota scores a 76 out of 100, the 6th highest scoring utility in the report, and earns an A.⁶⁷ Xcel Minnesota achieves this by planning to retire all of its coal by 2030 and planning enough clean energy to replace all of its existing fossil fuel generation by 2035. These plans would have earned Xcel MN a perfect 100; however, Xcel MN lost nearly a quarter of its points for its plans for a massive gas buildout.

Xcel MN plans to retire the Sherco coal plant by the end of 2025 and the Allen King plant in 2028, ending its coal generation. At the same time, Xcel MN plans to build enough wind and solar to replace all of its fossil fuel generation by 2035. This includes the Sherco solar and energy-storage facility, which will pair over 700 MW of new solar with long-duration storage and help replace the retiring Sherco coal plant.⁶⁸ By using the benefits in the Inflation Reduction Act, Xcel estimates they can reduce the project's cost by 30 percent and reduce customers' bills.^{69, 70}

Advocates in MN fought for nation-leading policies that pushed Xcel MN to this position. In 2023, Minnesota passed a law requiring 100 percent clean electricity by 2040, supported by a broad coalition.⁷¹ The MN Public Utilities Commission (PUC) has also been at the forefront of pushing utilities to fully incorporate the IRA into their planning. In September 2023, just a year after the passage of the IRA and after several rounds of comments from utility companies and stakeholders, the MN PUC released an order instructing utilities in the state to “maximize the benefits of the Inflation Reduction Act in future resource acquisitions...”⁷²

This legal backstop pushes Xcel MN to be a leader in building more clean energy and has led to some successes, even if the nature of being a corporate monopoly utility could lead them to do otherwise. For example, despite the MN climate law and Xcel MN's commitment to an 80 percent reduction in carbon emissions by 2030 compared to 2005, Xcel MN is still planning nearly 3 GW of new gas power plant capacity by 2035, the 8th largest buildout of any utility. As a monopoly utility in the current system, Xcel MN is not incentivized to prioritize the public's best interest over its profits. This leads to outcomes like this massive proposed gas buildout, which Xcel MN can earn a higher rate of return on than cleaner alternatives, like community solar.

Xcel MN is a national leader in retiring coal and bringing clean energy online. However, its plans for new gas power plants are counter to Minnesota's broader goals and mar its ability to set the bar for other utilities to follow to a truly clean power system. Xcel MN has been at the top of the pack for utility scores for the past three years. Now, it must take steps to close this final gap in its planning by modeling and committing to scenarios that achieve 100 percent clean electricity without new gas plants.

APPENDIX A: METHODS UPDATE

We analyzed investor-owned utilities, public power utilities (such as the Tennessee Valley Authority), generation and transmission cooperatives, and large municipal utilities.

These utilities all seek some form of rate recovery for their generation resources. They are all responsible for the resource adequacy of their generation supply, which means that when they plan retirements of coal and gas plants, they are responsible for building or sourcing replacement energy and capacity to comply with their resource adequacy requirements. We did not study any purely merchant generating companies.

We limited our study to the top 50 parent companies as ranked by remaining coal and gas under ownership as of the first version of the report in 2021. As of 2021, these companies accounted for roughly 50 percent of the country's remaining coal and gas generation.^{73, 74} We included 75 operating companies and 101 unique owners operating under the 50 parent companies.⁷⁵ We only looked at coal and gas plants under direct ownership by these utilities. We did not study power purchase agreements with coal and gas plants or other wholesale contracts or purchases of unspecified power.

Using the S&P Global Market Intelligence database, we aggregated coal and gas generation by owner, operating company, and parent company for the calendar year 2023.⁷⁶ In some cases, coal plant owners sell their coal plants to owners outside of this study rather than retiring them. In these cases, if the new owners have not committed to retire the plant by 2030, those coal plants are included in the sample as operating plants without a retirement date before the end of 2030 for the pre-sale owner. Selling a coal plant to another owner removes the plant from a utility's books, but it does not eliminate the harm caused by the plant which could have been avoided if

the plant were retired. As such, we continue to assign the coal plant to the original owner when calculating scores.

To quantify clean energy plans, we tracked integrated resource plans (IRPs) for those utilities that file them publicly, as well as corporate announcements of clean energy projects and planned clean energy projects listed in S&P Global. We included solar and wind projects as clean energy plans. We included planned renewables regardless of whether the utility plans to build the project itself or buy renewable energy via a power purchase agreement. We aggregated the wind and solar capacity planned by each utility in 2024 through 2035. This extended the timeline used in previous reports from 2030 to 2035. Clean energy was assumed to be built in the primary state in which the utility operates.⁷⁷ To calculate total clean generation from nameplate capacity, we used a set of state-specific capacity factors for onshore and offshore wind and utility-scale and distributed solar. Capacity factors were updated using market capacity factors from the National Renewable Energy Laboratory's (NREL) 2024 Annual Technology Baseline (ATB) to reflect the latest state of the market and the capacity factors most likely used in utility planning.⁷⁸ ATB capacity factors were mapped to each state based on the state resource class assumed by RMI in its Clean Energy Portfolio Model (CEPM).⁷⁹

Planned gas data included any new gas capacity proposed by a utility in an IRP or other publicly available source through 2035. This extended the timeline from previous reports from 2030 to 2035. Planned gas included new gas capacity in any stage before operation (i.e., included under construction). This also included planned coal-to-gas conversions but did not include capacity increases at existing gas plants where a new turbine is not being added.

The overall utility score was calculated using the following equation:

$$\text{Score} = \frac{\frac{\text{Clean planned [MWh] (2024-2035)}}{\text{Existing coal + gas [MWh] (2023)}} + \frac{\text{Coal committed to retire by 2030 [MWh]}}{\text{Existing coal [MWh] (2023)}} - \frac{\text{Planned gas by 2035 [MW]}}{\text{Existing coal + gas [MW] (2023)}}}{2} * 100$$

All data is up to date as of July 1, 2024.

Points are earned by retiring coal by 2030 and building clean energy through 2035, while points are lost by building new gas through 2035. The scores are divided by two to maintain a scale of 0 to 100. Each component of the score is capped at 100, and if a score is below 0 due to high gas penalties, then the company receives a 0. While the clean energy and coal components of the score are in terms of generation (megawatt hours), the gas component of the score is in terms of capacity (megawatts), as it is unclear how much each new gas plant would run (i.e., its capacity factor). A perfect 100 is achieved if a company commits 1) to retire all of its coal by 2030, 2) to not build any new gas through 2035, and 3) to build an amount of new clean energy commensurate with its existing fossil

fuel generation by 2035. Due to projected load growth, this is likely an underestimate of the clean energy utilities will need to build. Our scores are generous on this metric.⁸⁰ Finally, companies are assigned letter grades according to where their score lies on the following scale:



The cutoff for a failing grade (17.5) is slightly above the aggregate score of all companies studied from the inaugural version of this report (17.2).⁸¹ Parent company scores are an aggregate of the values for their subsidiaries, not an average.



SOLAR PANELS AND WIND TURBINES AT THE WILD HORSE WIND AND SOLAR FACILITY AND RENEWABLE ENERGY CENTER IN WASHINGTON
 PHOTO: TRONG NGUYEN/SHUTTERSTOCK.COM

APPENDIX B: TABLE OF RESULTS

PARENT COMPANY	2024 GRADE (SCORE)	OPERATING COMPANY	2024 GRADE (SCORE)	2023 GRADE (SCORE)	2022 GRADE (SCORE)	2021 GRADE (SCORE)
Algonquin Power & Utilities Corp.	F 8%	Empire District Electric	F 8%	F 3%	F 3%	C 39%
Alliant Energy Corporation	D 33%	Interstate Power and Light (Alliant)	F 7%	D 21%	F 13%	D 19%
		Wisconsin Power and Light (Alliant)	C 45%	B 59%	D 29%	D 30%
Ameren Corporation	D 19%	Ameren Missouri	D 19%	D 31%	D 32%	D 24%
American Electric Power Company, Inc.	C 45%	Appalachian Power	F 14%	F 14%	F 9%	F 7%
		Indiana Michigan Power	B 66%	B 61%	B 54%	C 44%
		Kentucky Power	D 28%	D 28%	D 18%	F 16%
		Ohio Power	F 0%	F 0%	F 0%	F 0%
		Public Service Company of Oklahoma	A 100%	A 100%	A 100%	A 87%
		SWEPSCO	D 33%	B 62%	B 65%	B 50%
		Wheeling Power	F 1%	F 1%	F 0%	F 0%
Arkansas Electric Cooperative Corp.	C 36%	Arkansas Electric Coop	C 36%	D 35%	C 37%	C 38%
Associated Electric Cooperative Inc.	F 0%	Associated Electric Coop	F 0%	F 0%	F 0%	F 3%
Basin Electric Power Cooperative	F 0%	Basin Electric Coop	F 0%	F 0%	F 0%	F 6%
Berkshire Hathaway	B 52%	MidAmerican	D 34%	D 35%	D 30%	D 23%
		NV Energy - Nevada Power Company	A 93%	A 78%	B 56%	B 59%
		NV Energy - Sierra Pacific Power Company	A 78%	A 77%	B 59%	B 50%
		PacifiCorp (Pacific Power and Rocky Mountain Power)	B 54%	C 49%	D 27%	F 10%
Big Rivers Electric Corporation	F 0%	Big Rivers Electric Corporation	F 0%	F 0%	F 0%	F 8%
Buckeye Power, Inc.	F 13%	Buckeye Power	F 13%	F 12%	F 0%	F 0%
Centerpoint Energy, Inc.	B 59%	Centerpoint Energy	B 59%	C 46%	C 35%	B 50%

APPENDIX B: TABLE OF RESULTS

PARENT COMPANY	2024 GRADE (SCORE)	OPERATING COMPANY	2024 GRADE (SCORE)	2023 GRADE (SCORE)	2022 GRADE (SCORE)	2021 GRADE (SCORE)
City Public Service of San Antonio	B 63%	CPS Energy	B 63%	C 41%	F 16%	F 6%
Cleco Partners LP	D 24%	Cleco Power	D 24%	D 29%	D 24%	D 18%
CMS Energy Corporation	B 72%	Consumers Energy	B 72%	B 67%	B 74%	C 43%
Dominion Energy, Inc.	C 43%	Dominion South Carolina	D 25%	C 37%	F 0%	F 14%
		Dominion Virginia	C 47%	D 31%	D 31%	D 34%
DTE Energy Company	B 57%	DTE Electric	B 57%	D 25%	F 15%	D 22%
Duke Energy Corporation	D 20%	Duke Energy Carolinas & Progress	D 28%	F 14%	F 5%	F 0%
		Duke Energy Florida	F 10%	F 8%	F 6%	F 0%
		Duke Energy Indiana	F 0%	D 26%	D 27%	F 13%
		Duke Energy Kentucky	F 9%	F 8%	F 9%	F 3%
East Kentucky Power Cooperative, Inc.	F 9%	East Kentucky Power Coop	F 9%	F 7%	F 8%	F 0%
Emera Incorporated	F 7%	Tampa Electric	F 7%	F 14%	D 25%	F 9%
Entergy Corporation	B 64%	Entergy Arkansas	A 86%	A 89%	A 90%	C 36%
		Entergy Louisiana	B 60%	B 60%	F 7%	F 0%
		Entergy Mississippi	C 41%	B 57%	B 56%	B 51%
		Entergy New Orleans	B 69%	B 51%	B 52%	C 41%
		Entergy Texas	B 51%	B 67%	F 0%	F 0%
Eversource Energy	F 13%	Eversource Kansas Central	F 8%	F 11%	D 22%	F 0%
		Eversource Metro / KCP&L	D 18%	F 3%	F 10%	F 8%
		Eversource Missouri West / KCP&L GMO	D 28%	D 32%	D 30%	F 8%
FirstEnergy Corp.	F 0%	Monongahela Power	F 0%	F 0%	F 0%	F 0%

APPENDIX B: TABLE OF RESULTS

PARENT COMPANY	2024 GRADE (SCORE)	OPERATING COMPANY	2024 GRADE (SCORE)	2023 GRADE (SCORE)	2022 GRADE (SCORE)	2021 GRADE (SCORE)
Fortis Inc.	C 43%	Tucson Electric Power (TEP)	C 43%	D 31%	D 27%	C 39%
Great River Energy	C 37%	Great River Energy	C 37%	D 27%	D 23%	A 75%
Hoosier Energy Rural Electric Coop Inc.	F 0%	Hoosier Energy Rural Electric Coop	F 0%	F 5%	F 12%	C 49%
IDACORP, Inc.	C 45%	Idaho Power	C 45%	B 63%	C 48%	F 14%
Intermountain Power Agency	D 24%	Intermountain Power Agency	D 24%	D 24%	D 24%	D 27%
JEA	F 8%	JEA	F 8%	F 8%	D 20%	F 4%
Lower Colorado River Authority	F 0%	Lower Colorado River Authority	F 0%	F 0%	F 0%	F 11%
Nebraska Public Power District	F 0%	Nebraska Public Power District (NPPD)	F 0%	F 0%	F 0%	F 2%
NextEra Energy, Inc.	B 75%	Florida Power & Light (FPL)	B 75%	B 67%	B 56%	F 16%
NiSource Inc.	A 82%	Northern Indiana Public Service Company (NIPSCO)	A 82%	A 92%	A 85%	A 82%
OGE Energy Corp.	F 0%	Oklahoma Gas and Electric	F 0%	F 0%	F 0%	F 4%
Oglethorpe Power Corporation	F 0%	Oglethorpe Power	F 0%	F 5%	F 7%	F 0%
Omaha Public Power District	F 3%	Omaha Public Power District (OPPD)	F 3%	F 0%	D 21%	F 3%
Orlando Utilities Commission	B 69%	Orlando Utilities Commission	B 69%	B 51%	B 65%	B 55%
Pinnacle West Capital Corporation	C 39%	Arizona Public Service (APS)	C 39%	D 29%	D 29%	D 34%
PNM Resources, Inc.	B 50%	Public Service Company of New Mexico (PNM)	B 50%	C 49%	B 61%	B 58%
Portland General Electric Company	D 33%	Portland General Electric (PGE)	D 33%	C 41%	F 14%	C 48%
PPL Corporation	F 8%	Louisville Gas & Electric and Kentucky Utilities	F 8%	F 4%	F 10%	F 2%
Puget Holdings LLC	B 50%	Puget Sound Energy (PSE)	B 50%	B 50%	C 48%	B 66%
Salt River Project	C 38%	Salt River Project (SRP)	C 38%	D 18%	F 11%	D 20%
Seminole Electric Cooperative Inc.	F 0%	Seminole Electric Coop	F 0%	F 0%	F 0%	F 0%

APPENDIX B: TABLE OF RESULTS

PARENT COMPANY	2024 GRADE (SCORE)	OPERATING COMPANY	2024 GRADE (SCORE)	2023 GRADE (SCORE)	2022 GRADE (SCORE)	2021 GRADE (SCORE)
South Carolina Public Service Authority	D 21%	Santee Cooper	D 21%	D 20%	F 16%	F 11%
		Alabama Power	F 0%	F 0%	F 0%	F 0%
Southern Company	F 0%	Georgia Power	F 0%	F 16%	F 15%	F 13%
		Mississippi Power	C 48%	B 51%	B 50%	F 0%
Tennessee Valley Authority	D 31%	Tennessee Valley Authority (TVA)	D 31%	F 14%	F 2%	F 9%
The AES Corporation	B 56%	AES Indiana	B 56%	C 45%	D 26%	D 30%
Tri-State Generation & Transmission Association, Inc.	C 41%	Tri-State	C 41%	C 46%	B 51%	C 36%
WEC Energy Group, Inc.	F 15%	We Energies	F 12%	D 24%	D 25%	D 23%
		Wisconsin Public Service (WPS)	D 19%	D 19%	F 3%	F 3%
Xcel Energy Inc.	B 74%	Xcel Colorado	B 61%	B 72%	B 58%	D 31%
		Xcel Minnesota / Wisconsin	A 76%	A 79%	A 77%	B 66%
		Xcel Texas / New Mexico	B 51%	D 24%	D 22%	D 23%

ENDNOTES

1. See “Appendix A: Methods Update” for more details on scoring.
2. White House Briefing Room, [FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies](#), 2021.
3. [“White House pushing for 80% clean U.S. power grid by 2030, source says.”](#) CNBC, 2021.
4. John Romankiewicz, Cara Bottorff, and Leah C. Stokes, [The Dirty Truth About Utility Climate Pledges](#), Sierra Club, 2021.
5. We include the top 50 parent companies ranked by remaining coal and gas generation under ownership as of the first version of the report in 2021. We exclude merchant generators defined as those that are not rate regulated and where the owner of the generator is not obligated to replace the generator with an alternative power source if they choose to retire it.
6. Climatewire, [“Extreme weather drives more US power outages, studies show,”](#) 2024.
7. Climate Power, [The State of the Clean Energy Boom](#), 2024.
8. Dev Millstein, Eric O’Shaughnessy, and Ryan Wiser, [Climate and air quality benefits of wind and solar generation in the United States from 2019 to 2022](#), Cell Reports Sustainability, Volume 1, Issue 6, 100105, 2024.
9. Brendan Pierpont, [Clean Energy Isn’t Driving Power Price Spikes](#), Energy Innovation, 2024.
10. IPCC, [Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments](#), 2018.
11. Climate Analytics, [Global and regional coal phase-out requirements of the Paris Agreement: Insights from the IPCC Special Report on 1.5°C](#), 2019.
12. Leah C. Stokes, [“Cleaning up the Electricity System”](#), Democracy Journal, 2020.
13. Evolved Energy Research, [Federal Policy for Low-Carbon, High-Renewables Electricity](#), 2020.
14. Saul Griffith, [Rewiring America](#), 2020.
15. White House Briefing Room, [FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies](#), 2021.
16. [“White House pushing for 80% clean U.S. power grid by 2030, source says.”](#) CNBC, 2021.
17. [Inflation Reduction Act Marks a Turning Point in History](#), Sierra Club, 2022.
18. [Justice40](#), The White House, Accessed August 2024.
19. Office of Energy Justice and Equity, [Justice40 Initiative](#), Department of Energy, Accessed August 2024.
20. Justice40 directs that 40 percent of benefits from Covered Programs flow to “disadvantaged communities.” For discussion of the definition of “disadvantaged communities,” see [Department of Energy](#) and/or [Climate and Economic Justice Screening Tool \(CEJST\)](#).
21. Megan Mahajan, Robbie Orvis, Anand Gopal, Dan O’Brien, and Rachel Goldstein, [The Second Half of the Decisive Decade](#), Energy Innovation, 2024.
22. Peter Behr, [“Biden’s 2035 carbon-free grid goal is unrealistic: EEI chief,”](#) EnergyWire, 2024.
23. A meta analysis of clean energy models looked across 11 studies published since 2020 that “collectively affirm that achieving 80 percent clean electricity by 2030 is feasible, affordable, critical to meeting national climate goals, and deeply beneficial to the economy and public health — all without compromising power system reliability.” Dan Esposito, [Studies agree 80 percent clean electricity by 2030 would save lives and create jobs at minimal cost](#), Energy Innovation, 2021.
24. Renner Barsella, [“FERC Judge Rules Nation’s Largest Rural Electric Co-op Failed to Assess Coal Alternatives,”](#) Sierra Club, 2024.
25. Some utilities have no formal integrated resource planning processes. Associated Electric Coop, which receives an F with no plans to retire its coal plants, plans to build new gas plants, and no plans to build clean energy, has no official planning process or documents.
26. Lauren Shwisberg, Katerina Stephan, and Mark Dyson, [Reimagining Resource Planning](#), RMI, 2023.
27. Tyler Fitch, Rachel Gold, Katerina Stephan, Lauren Shwisberg, and Gennelle Wilson, [Planning to Harness the Inflation Reduction Act](#), RMI, 2024.
28. Noah Ver Beek, [Leaving Money on the Table: Utilities Failing to Leverage the Inflation Reduction Act](#), Sierra Club, 2024.
29. For example, MidAmerican repeatedly sought to keep two generation planning studies secret from regulators and the public. The Iowa Utilities Board found that the public deserved access to the studies, which would be used to determine long-term plans for generation. [MidAmerican Energy’s secret planning studies to be made public](#), Sierra Club, 2023.
30. Lauren Shwisberg, Mark Dyson, Grant Glazer, Carl Linvill, and Megan Anderson, [How to Build Clean Energy Portfolios: A Practical Guide to Next-Generation Procurement Practices](#), RMI, 2020.
31. John Romankiewicz, Cara Bottorff, and Leah C. Stokes, [The Dirty Truth About Utility Climate Pledges](#), Sierra Club, 2021.
32. Percentages do not add up to 100% due to rounding.
33. [Net Zero by 2050: A Roadmap for the Global Energy Sector](#), IEA, 2021.
34. EPA Press Office, [Biden-Harris Administration Finalizes Suite of Standards to Reduce Pollution from Fossil Fuel-Fired Power Plants](#), EPA, 2024.
35. For example, Big Rivers Electric Cooperative, which provides energy to three distribution utilities in western Kentucky, stated in their 2023 IRP “...Big Rivers does not believe the Proposed GHG Rule and its contemplated BSER technology (either CCS or Green hydrogen co-firing) should presently have significant impacts on long term resource planning.” ([2023 IRP](#), pg 95).
36. Michelle Solomon, Eric Gimon, Mike O’Boyle, Umed Paliwal, and Amol Phadke, [Coal Cost Crossover 3.0: Local Renewables Plus Storage Create New Opportunities for Customer Savings and Community Reinvestment](#), Energy Innovation, 2023.
37. Daniel Prull, [Out of Control The Deadly Impact of Coal Pollution](#), Sierra Club, 2023.
38. While Idaho Power has committed to exit its coal by 2030, it will be selling shares of its coal plants to PacifiCorp, which does not intend to retire the plant by 2030. Selling a coal plant to another owner removes the plant from a utility’s books, but it does not eliminate the harm caused by the plant, which could have been avoided if the plant were retired.
39. Lauren Shwisberg, [The Business Case for New Gas Is Shrinking](#), RMI, 2022.
40. Nicholas Roy, Dallas Burtraw, and Kevin Rennert, [Retail Electricity Rates Under the Inflation Reduction Act of 2022](#), Resources for the Future, 2022.

ENDNOTES

41. EPA Press Office, [Biden-Harris Administration Finalizes Suite of Standards to Reduce Pollution from Fossil Fuel-Fired Power Plants](#), EPA, 2024.
42. Cara Fogler and Noah Ver Beek, [The Dirty Truth About Utility Climate Pledges 2023](#), Sierra Club, 2023.
43. Utilities are planning to build an average of 52 million MWh/year from 2024-2035. This is higher than the annual amount planned in any previous version of this report.
44. Eric Gimon, Mike O'Boyle, and Michelle Solomon, [Meeting Growing Electricity Demand Without Gas](#), Energy Innovation, 2024.
45. "MidAmerican served Iowa customers' electricity demand with 100% renewable energy in 2022", MidAmerican Energy Company, 2023.
46. Jeffrey Tomich, ["MidAmerican Energy's renewable claims are misleading, green groups say"](#), EnergyWire, 2024.
47. The scores assigned here do not reflect all aspects of a company's business. While NiSource receives an A based on the factors included in our score, the score does not account for its gas utility. Emissions from NiSource's gas customers at end use are far higher than those from electric generation. Those gas customer emissions are called "scope 3" and "other" emissions and are not included in NiSource's climate goals ([NiSource 2024 ESG Report](#), page 24).
48. The plans for some companies would receive negative points due to high penalties for plans to build new gas, and those companies are given a zero. When those plans are added together for an aggregate score of this group, although some companies score above a zero, the aggregate score is a zero.
49. FirstEnergy, ["Climate Story"](#), 2024.
50. Lauren D. Donofrio, [Filing in MPSC Case No. U-21193](#) (filing U-21193-0014), DTE, 2022.
51. Matt Helms, ["Commission approves settlement agreement on DTE Electric Co.'s integrated resource plan"](#), Michigan Public Service Commission, 2023.
52. Will Kenworthy, ["Clean Energy Advocates Negotiate Banner Agreement with DTE Energy"](#), Vote Solar, 2023.
53. Evergy's three subsidiaries are Evergy Kansas Central (Kansas Central), Evergy Metro / KCP&L (Metro), and Evergy Missouri West / KCP&L GMO (Missouri West). A fourth subsidiary, Westar Energy / KPL is included as part of Evergy Kansas Central. Evergy, [Company Information](#), 2024.
54. EPA, [EJScreen: Environmental Justice Screening and Mapping Tool \(Version 2.3\)](#), Accessed August 2024.
55. Jonathan Shorman and Katie Bernard, ["Panasonic plant will require so much power, Evergy will seek rate hike in Kansas"](#), The Kansas City Star, 2023.
56. Sierra Club, [Kansas Pays the Price Volume 2](#), 2021.
57. [Evergy Missouri West April 2024 IRP](#) and [Evergy Kansas Central / Metro May 2024 IRP](#).
58. Evergy, [Evergy Announces 'Sustainability Transformation Plan'](#), 2021.
59. Evergy, [Sustainability](#), 2024.
60. [Energy Efficiency for an Equitable Energy and Housing Future](#), Energy Efficiency for All, Accessed August 2024.
61. Gabe Swartz, ["Evergy requests rate increase to recover costs related to generation capacity"](#), KCTV5, 2024.
62. [Energy Efficiency: A Good Investment for Kansas](#), Midwest Energy Efficiency Alliance (MEEA), 2024.
63. [Panasonic GREEN IMPACT](#), Panasonic Group, Accessed August 2024.
64. [Net-zero carbon](#), Google Sustainability, Accessed August 2024.
65. [Corporate Social Responsibility](#), Microsoft, Accessed August 2024.
66. Eric Gimon, Mike O'Boyle, and Michelle Solomon, [Meeting Growing Electricity Demand Without Gas](#), Energy Innovation, 2024.
67. This case study focuses on Xcel's operations in Minnesota. This utility is also known as Northern States Power Company and operates in some other Midwest states. It is referred to as Xcel Minnesota / Wisconsin elsewhere in the report and associated materials.
68. Eric Wesoff, ["Minnesota's biggest solar project will help replace a huge coal plant"](#), Canary Media, 2024.
69. Ethan Howland, ["Minnesota PUC approves Xcel Energy's 460-MW solar project to replace Sherco coal-fired generation"](#), UtilityDive, 2022.
70. Walker Orenstein, ["PUC approves Xcel plan to replace retiring Minnesota coal plant with mega solar farm"](#), StarTribune, 2024.
71. [100% MN](#), Accessed August 2024.
72. Docket No. E,G-999/CI-22-624, [Order Setting Requirements Related to Inflation Reduction Act](#), Minnesota Public Utilities Commission, 2023.
73. We excluded two utilities (Pacific Gas and Electric and Los Angeles Department of Water and Power) from the top 50 due to their significant amount of coal and gas purchased from power purchase agreements or bulk market purchases, which we did not account for in the scope of this study.
74. Based on S&P Market Intelligence, as of 2023 the companies in this report own approximately 1.2 billion MWh of the approximately 2.4 billion MWh of coal and gas generation in the US.
75. Full list of companies included [available on the Dirty Truth Website](#). This year we combined Duke Energy Carolinas and Duke Energy Progress into a single operating company for the purposes of this report. We also combined Westar with Evergy Kansas Central based on ownership characteristics listed in Evergy's IRPs.
76. S&P Global Market Intelligence; SNL Energy Data.
77. For utilities with operations in multiple states, the average capacity factor across all states in which the utility operates was used.
78. NREL (National Renewable Energy Laboratory), [2024 Annual Technology Baseline](#), National Renewable Energy Laboratory, 2024.
79. RMI, [Clean Energy Portfolios](#), 2023.
80. John D. Wilson and Zach Zimmerman, [The Era of Flat Power Demand is Over](#), GridStrategies, 2023.
81. John Romankiewicz, Cara Bottorff, and Leah C. Stokes, [The Dirty Truth About Utility Climate Pledges](#), Sierra Club, 2021.