

These 14 competitive jurisdictions shown in **green** (13 states plus Washington DC) account for one-third of U.S. electricity power production and consumption. The designation of “competitive jurisdiction” in this paper is defined as a jurisdiction that:

- Enables nearly all classes of customers to be able to choose a retail supplier without cumbersome restrictions or limitations, and;
- The utilities in these jurisdictions have divested all (or nearly all) of their generation assets and are primarily wires-only delivery service companies. Consequently, the generating assets in these states are not included in the rate base of these delivery service utilities. Therefore, they compete within the wholesale power market parameters in place for business revenues.

It should be noted that several other states—including California, Michigan, Arizona, Oregon, Nevada, Virginia, Washington, and Montana— allow limited portions of the total load to be served competitively at retail while denying the great majority of customers a choice of supplier. These hybrid states are mainly regulated under the traditional monopoly model and are treated accordingly in this paper (see note below concerning the ‘hybrid’ states). The primary focus of this whitepaper examines the various aspects and outcomes of these 14 jurisdictions (combined) vs. the 35 monopoly states (combined) on a whole host of measures, including generator builds, performance and capacity factors, pricing performance by rate class, switching activity, and the like.

The Transitional Decade 1998-2007

Each of the 14 competitive states/jurisdictions proceeded at different speeds and in other ways during the transitional decade. By 2007, phase-ins of customer class eligibility and the collection of stranded-cost charges had reached their prescribed end points in most states. The transitional decade witnessed a cautious, stepwise approach that set the stage for ongoing evolution and growth in competitive retail markets. Regulation would continue to adapt to this new model.

By 2008, in competitively restructured states:

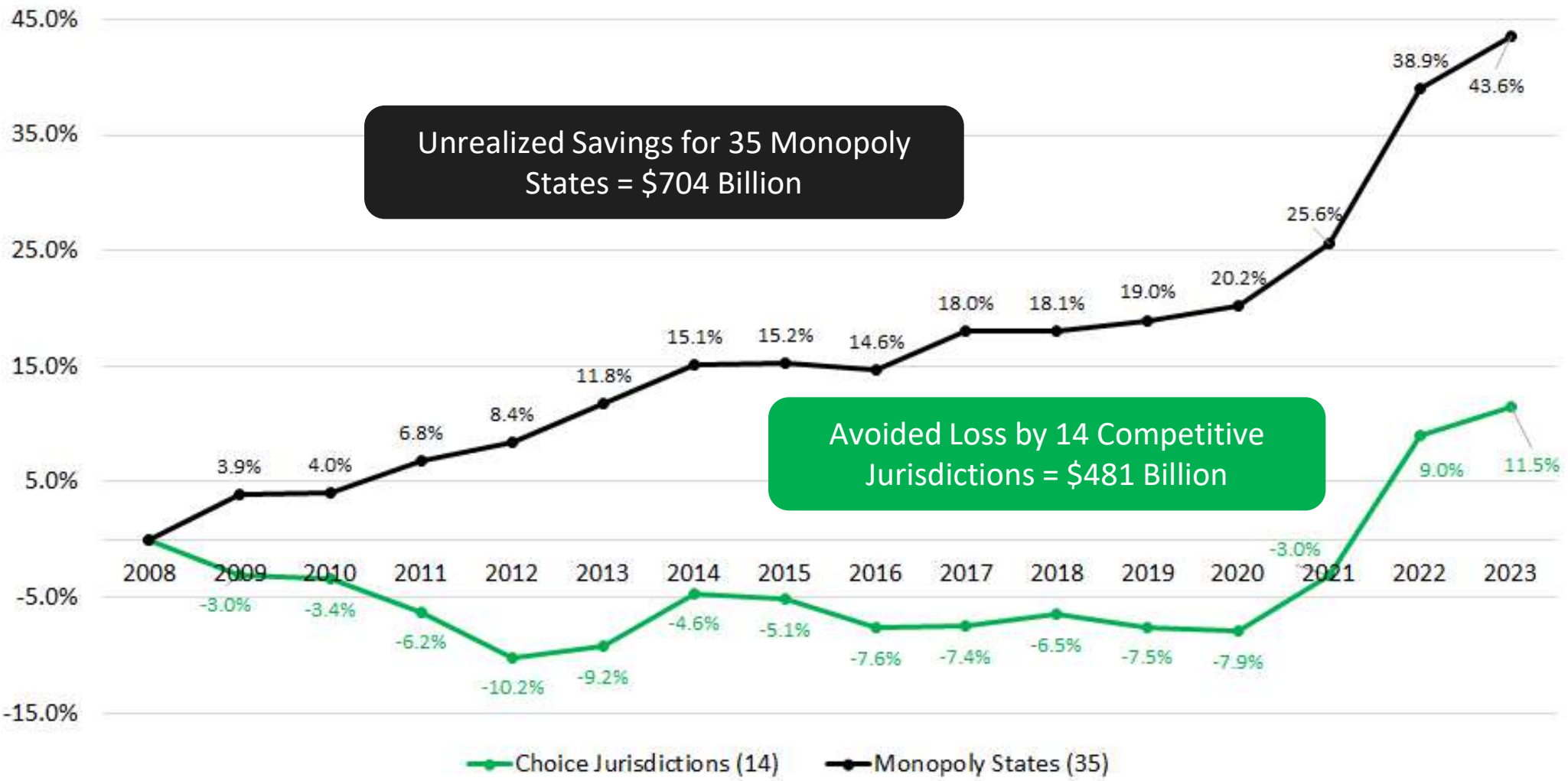
- Most utility generation had been divested to unaffiliated firms or devolved to competitive generation affiliates, resulting in nearly half of all productive capacity in the country being owned and operated by a diverse array of non-utility companies;
- Utilities had been compensated for “stranded” investment in uneconomic generation;
- Large numbers of retail suppliers were offering competitively priced supplies;
- Millions of customers, especially in the commercial and industrial classes, had embraced supplier choice;
- Nearly all consumption in the 14 customer choice markets was satisfied by non-utility suppliers;
- Default service programs, mainly for residential and small business customers not choosing an alternative supplier, were functioning well, providing competitively priced supply, usually procured by utilities in the market and divorced from traditional rate-of-return price regulation; and
- Billions of dollars in new generation investment were made at similar paces in monopoly and competitive states.

The ‘Hybrid’ States

Hybrid states are as varied in their approaches to limiting retail customer choice as are the choice states in the details of their market-based programs (perhaps even more so). In all cases, however, there is strong evidence of considerable customer demand for market access that can be satisfied under the rules. In Michigan, for example, more than twice as much load than the 10% permitted to access choice is enrolled in choice “queues.” Industrial and commercial customers in Arizona, California, and Oregon have eagerly participated in legislative and regulatory proceedings that consider expanded market access. In Nevada, the constitutional amendment adopted by a 72% voter majority in the November 2016 election was initially promoted for the ballot by large customers dissatisfied with utility and regulatory obstacles to electricity retail competition. However, in November 2018, that measure was largely voted down due to Nevada Energy (utility) opposition. Meanwhile, as of this writing (August 2024), other states are contemplating various competitive markets, such as Missouri, Oklahoma, and Louisiana.

All-Sector Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2023

% Price Change – 32.1% Spread
 Figure 2 of The Great Divergence
 Source: EIA-861M



Unrealized Savings for 35 Monopoly States = \$704 Billion

Avoided Loss by 14 Competitive Jurisdictions = \$481 Billion



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A DECADE OF DIVERGENT PRICE PATHS

U.S. Energy Information Administration (EIA) data allow for comparing trends in weighted average nominal prices between the monopoly group of states and the competitive jurisdictions. The All-Sector annual weighted average price in the 35 monopoly states was 43.6% higher in 2023 than in 2008. In contrast, the All-Sector annual weighted average price for the competitive retail markets was only 11.5% higher than in 2008.

The dollar implications of such spreads in price paths are significant. If 2008-2023 annual percentage price changes in the thirty-five monopoly states had tracked with percentage price changes in the fourteen competitive jurisdictions, all consumers in the monopoly states would have saved more than half of a trillion dollars (**\$703.7 billion**). By major customer class, the savings (in the monopoly states) would have been \$230.6 billion for Residential, \$291.4 billion for Commercial and \$172.2 billion for Industrial.*¹*²

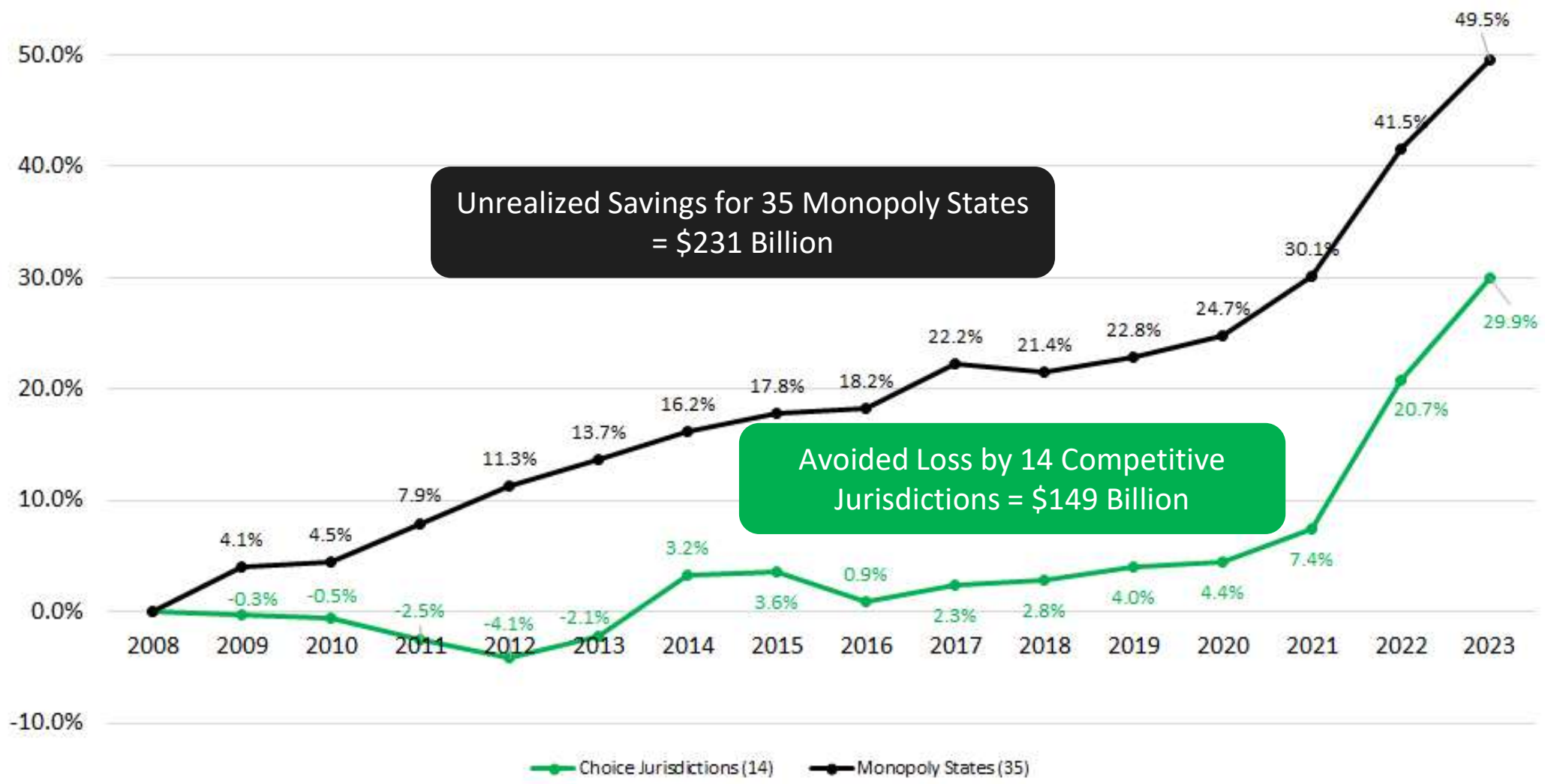
*1: The flip side is that if the same price trend patterns that occurred in the monopoly group had also prevailed in the competitive jurisdictions, the hypothetical cost to electricity customers in the fourteen choice markets would have been higher by **\$480.8 billion** for All- Sector. By major customer class, the avoided cost in the competitive jurisdictions is \$148.6 billion for Residential, \$220.0 billion for Commercial and \$107.3 billion for Industrial. *²

*2: The All-Sector cost is slightly higher than the combined Residential, Commercial, and Industrial sectors because Transportation and Other is not shown

Residential Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2023

% Price Change – 19.6% Spread

Figure 3 of The Great Divergence



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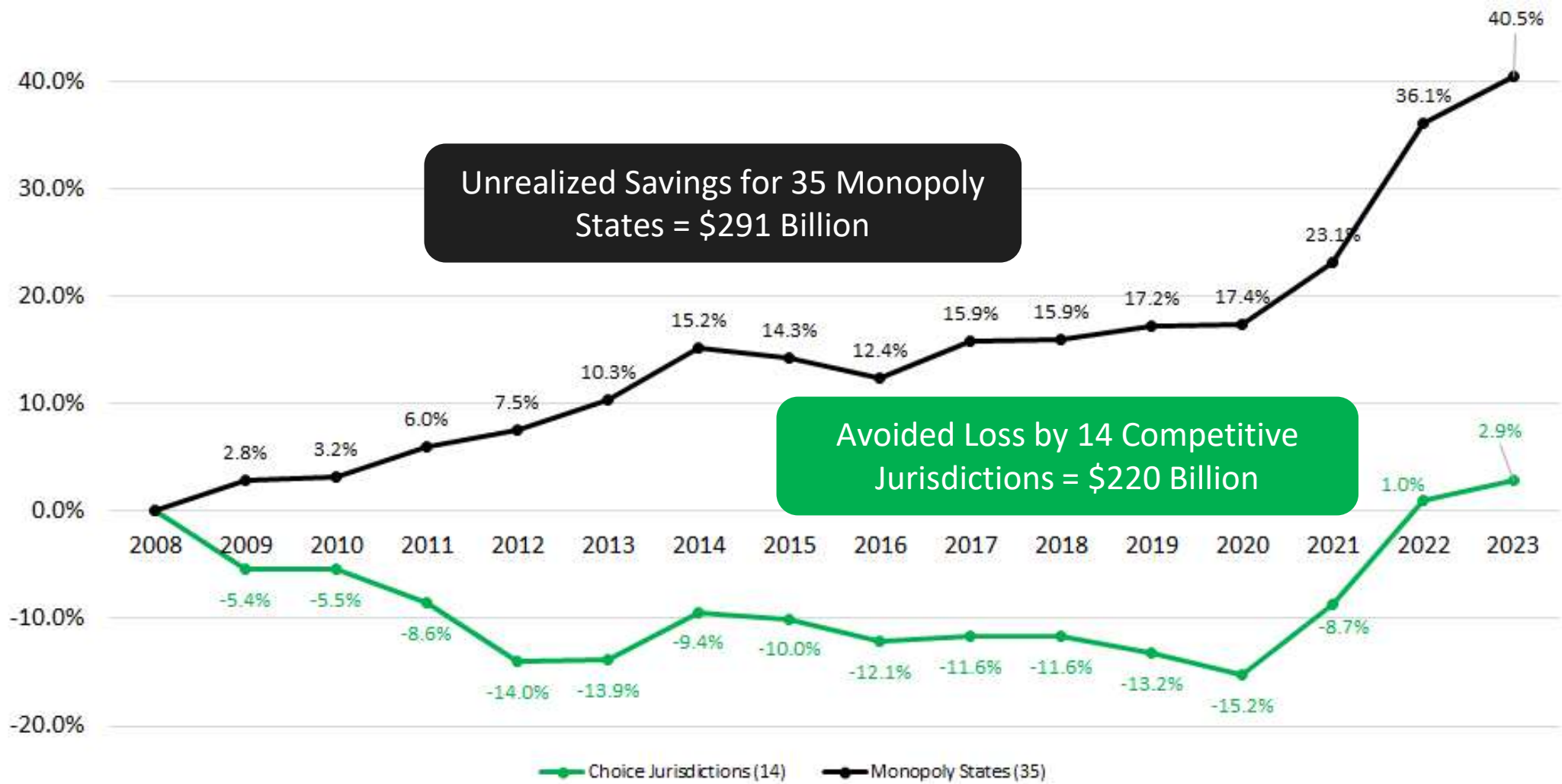
A DECADE OF DIVERGENT PRICE PATHS

U.S. Energy Information Administration (EIA) data allow for a comparison of trends in weighted average nominal prices between the monopoly group of states and the competitive jurisdictions. This figure shows stunningly different price trends in the competitive jurisdictions compared to the monopoly states. From 2008 through 2023, weighted average prices for residential customers in the 35 monopoly states have risen by 49.5%. By contrast, in the 14 competitive markets, residential customers weighted average prices have risen significantly less, increasing only **29.9%**.

The dollar implications of such spreads in price paths are significant. If 2008-2023 annual percentage price changes in the thirty-five monopoly states had tracked with percentage price changes in the fourteen competitive jurisdictions, residential consumers in the monopoly states would have saved a quarter of a trillion dollars (**\$231 billion**). The flip side is that if the same price trend patterns that occurred in the monopoly group had also prevailed in the competitive jurisdictions, the hypothetical cost to residential electricity customers in the fourteen choice markets would have been higher by **\$149 billion**.

Commercial Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2023

% Price Change – 37.6% Spread
 Figure 4 of The Great Divergence
 Source: EIA-861M



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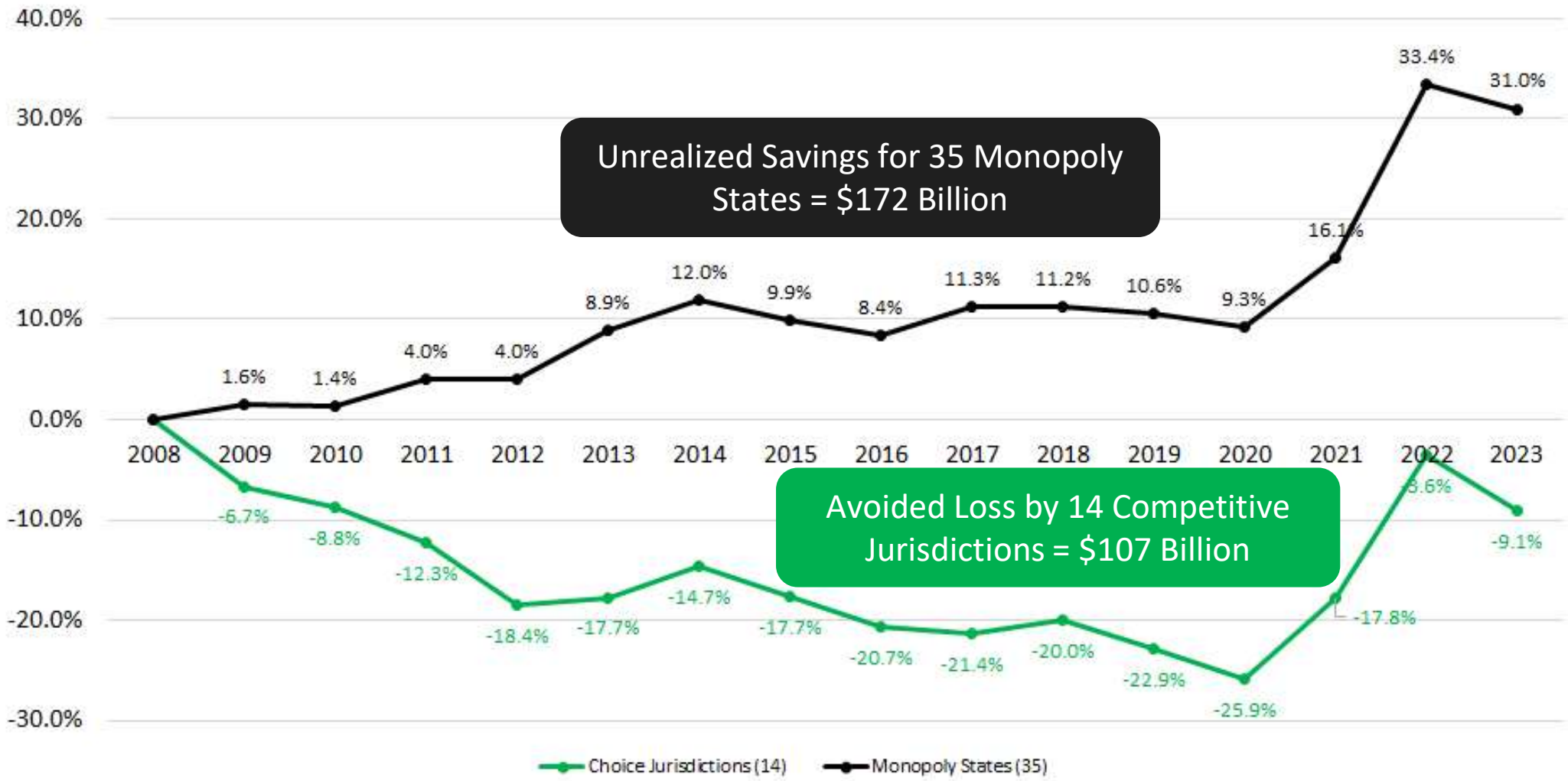
Figure 4 (page 5) of The Great Divergence and Figure 8 (page 17) of Restructuring Recharged - **Updated through CY2023**
A DECADE OF DIVERGENT PRICE PATHS

U.S. Energy Information Administration (EIA) data allow for a comparison of trends in weighted average nominal prices between the monopoly group of states and the competitive jurisdictions. This figure shows stunningly different price trends in the competitive jurisdictions compared to the monopoly states. From 2008 through 2023, weighted average prices for commercial customers in the 35 monopoly states have risen by 40.5%. By contrast, in the 14 competitive markets, commercial average prices have risen extremely less, increasing only **2.9%**.

The dollar implications of such spreads in price paths are significant. If 2008-2023 annual percentage price changes in the thirty-five monopoly states had tracked with percentage price changes in the fourteen competitive jurisdictions, commercial consumers in the monopoly states would have saved a quarter of a trillion dollars (**\$291 billion**). The flip side is that if the same price trend patterns that occurred in the monopoly group had also prevailed in the competitive jurisdictions, the hypothetical cost to commercial electricity customers in the fourteen choice markets would have been higher by **\$220 billion**.

Industrial Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2023

% Price Change – 40.1% Spread
Figure 5 of The Great Divergence
Source: EIA-861M



A DECADE OF DIVERGENT PRICE PATHS

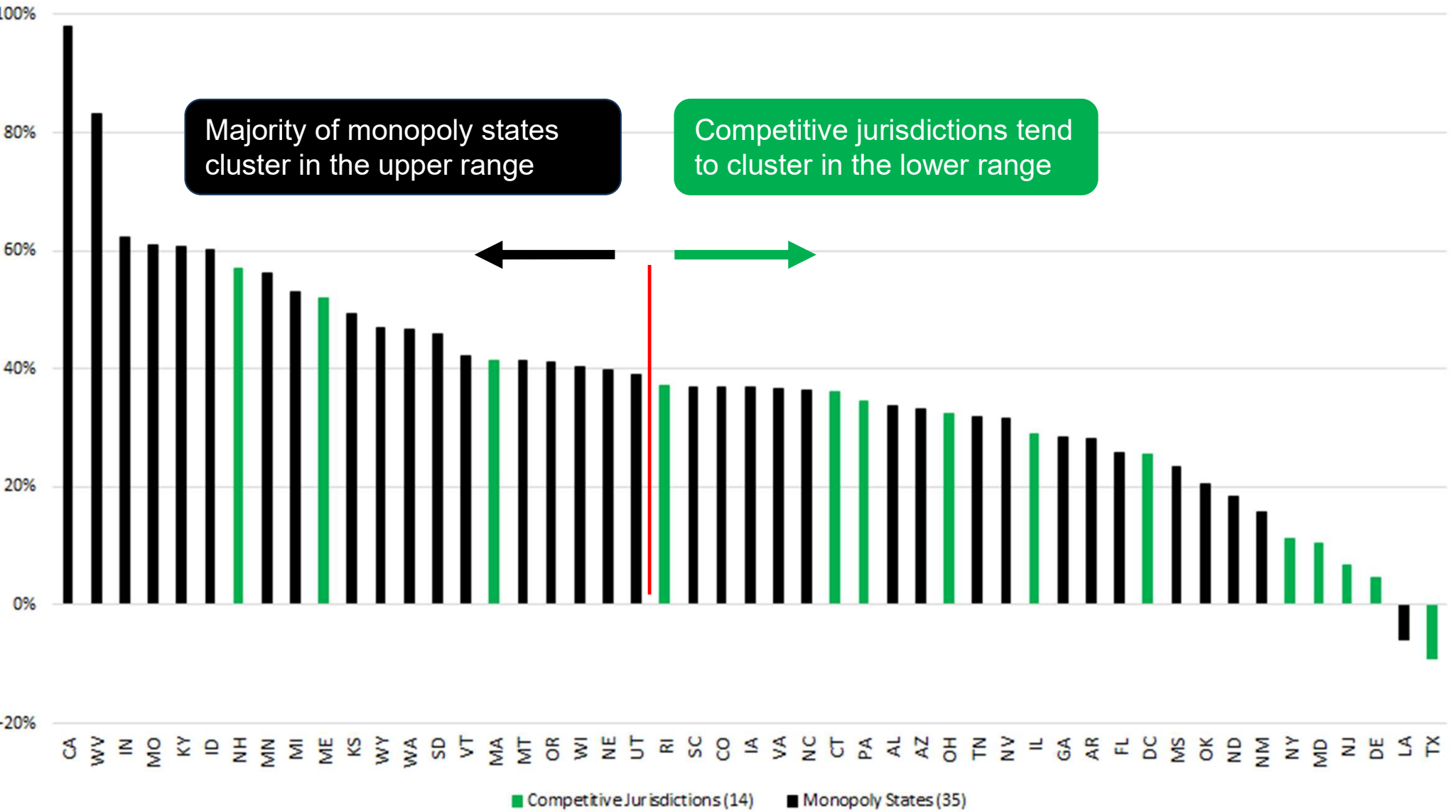
U.S. Energy Information Administration (EIA) data allow for a comparison of trends in weighted average nominal prices between the monopoly group of states and the competitive jurisdictions. This figure shows stunningly different price trends in the competitive jurisdictions compared to the monopoly states. From 2008 through 2023, weighted average prices for industrial customers in the 35 monopoly states have risen by 31%. By contrast, in the 14 competitive markets, commercial average prices have experienced the reverse trend, decreasing by 9.1%.

The dollar implications of such spreads in price paths are significant. If 2008-2023 annual percentage price changes in the thirty-five monopoly states had tracked with percentage price changes in the fourteen competitive jurisdictions, industrial consumers in the monopoly states would have saved a quarter of a trillion dollars (**\$172 billion**). The flip side is that if the same price trend patterns that occurred in the monopoly group had also prevailed in the competitive jurisdictions, the hypothetical cost to industrial electricity customers in the fourteen choice markets would have been higher by **\$107 billion**.

All Sector Price % Price Change by State, 2008-2023

Figure 6 of The Great Divergence

Source: EIA-861M



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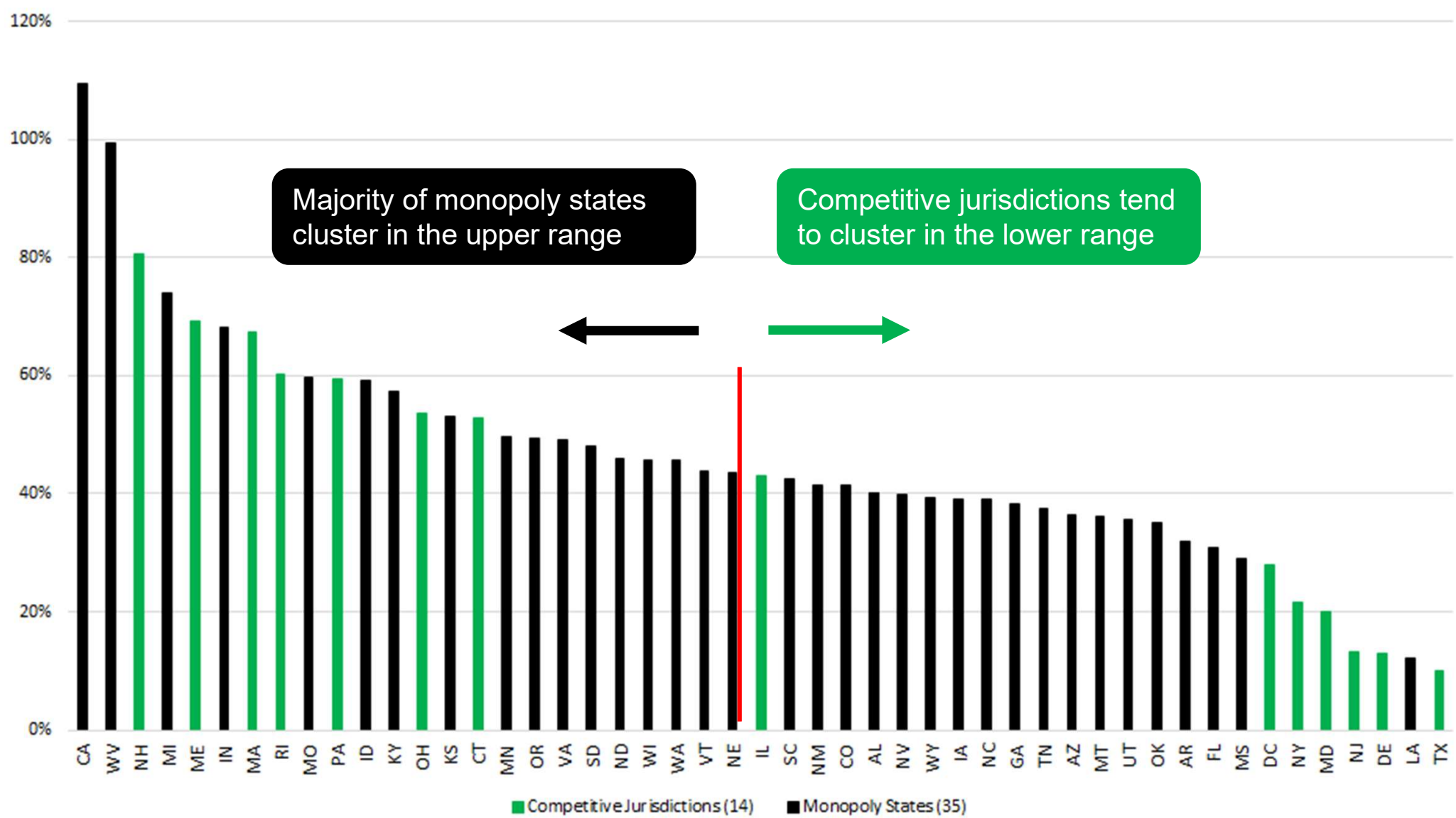
Figure 6 (page 6) of The Great Divergence and Figure 16 (page 20) of Restructuring Recharged - Updated through CY2023
DIVERGENT DIRECTIONS AND STATE RANKINGS

The significant difference in percentage changes in weighted average prices between the monopoly and competitive choice jurisdictions is not the result of a few large states skewing the results in one direction. Instead, when the states are ranked by the percentage change in each state's average All-Sector price change over this period, the competitive states tend to cluster in the lower range, and the monopoly states tend to occupy the higher parts of the rankings.

Residential Price % Price Change by State, 2008-2023

Figure 7 of The Great Divergence

Source: EIA-861M



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DIVERGENT DIRECTIONS AND STATE RANKINGS

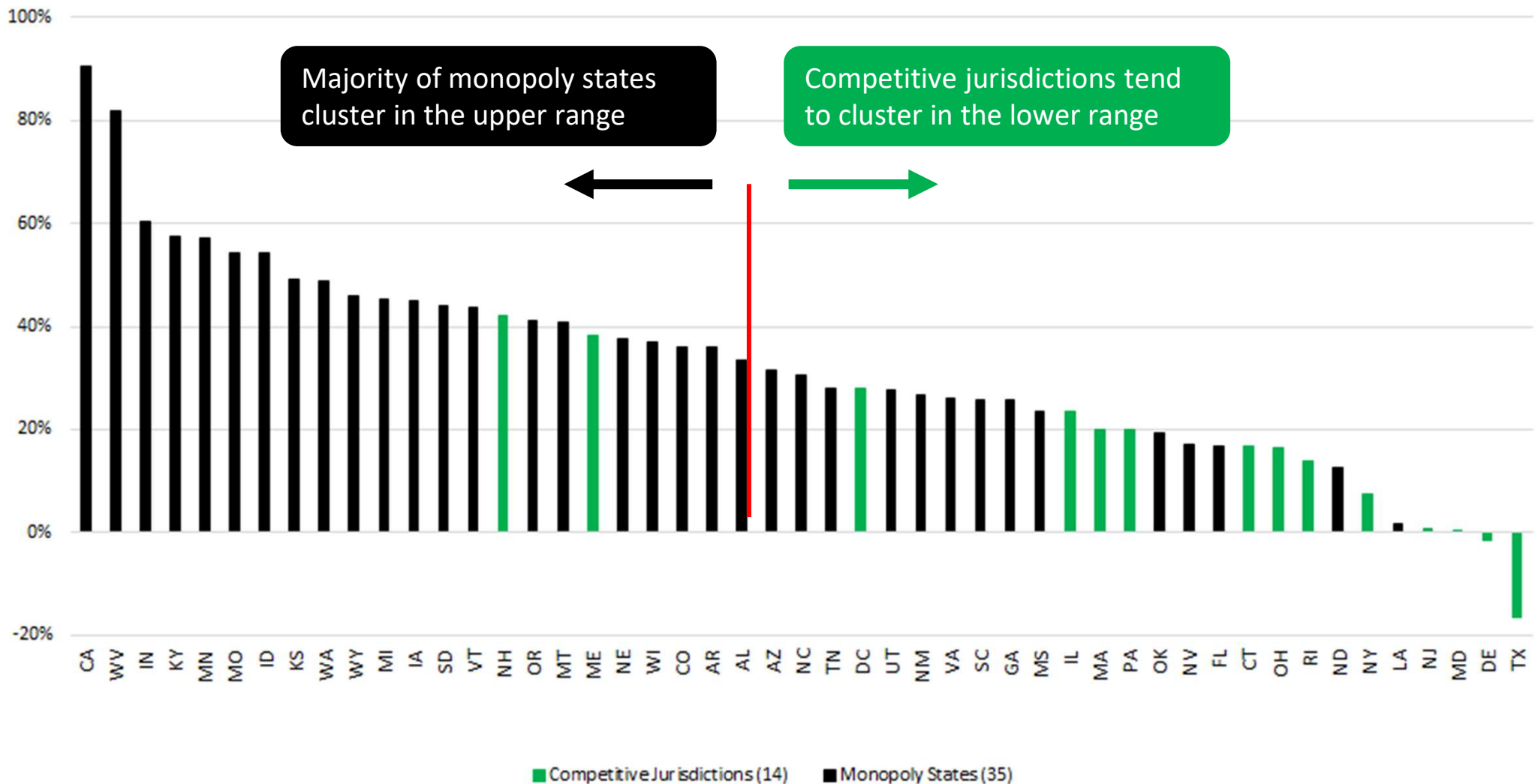
The significant difference in percentage changes in weighted average prices between the monopoly and competitive choice jurisdictions is not the result of a few large states skewing the results in one direction. Instead, when the conditions are ranked by the percentage change in each state's average residential price change over this period, the competitive states tend to cluster in the lower range, and the monopoly states tend to occupy the higher parts of the rankings.

The significant difference in percentage changes in weighted average prices between the monopoly and competitive choice jurisdictions remained consistent until 2023. In previous years, competitive states tended to cluster in the lower range, and the monopoly states tended to occupy the higher parts of the rankings. However, in 2023, when the states are ranked by the percentage change in each state's average residential price change over this period, a shift occurs, splitting competitive choice jurisdictions, half in the lower range and half in the upper. Non-New England states tended to skew to the bottom of the range, while New England states skewed to the upper range. This sudden price increase in New England is likely due to higher RPS standards and limited access to low-priced shale gas supplies. Comparably, Vermont, the only monopoly jurisdiction in New England, is experiencing a similar price performance.

Commercial Price % Price Change by State, 2008-2023

Figure 8 of The Great Divergence

Source: EIA-861M



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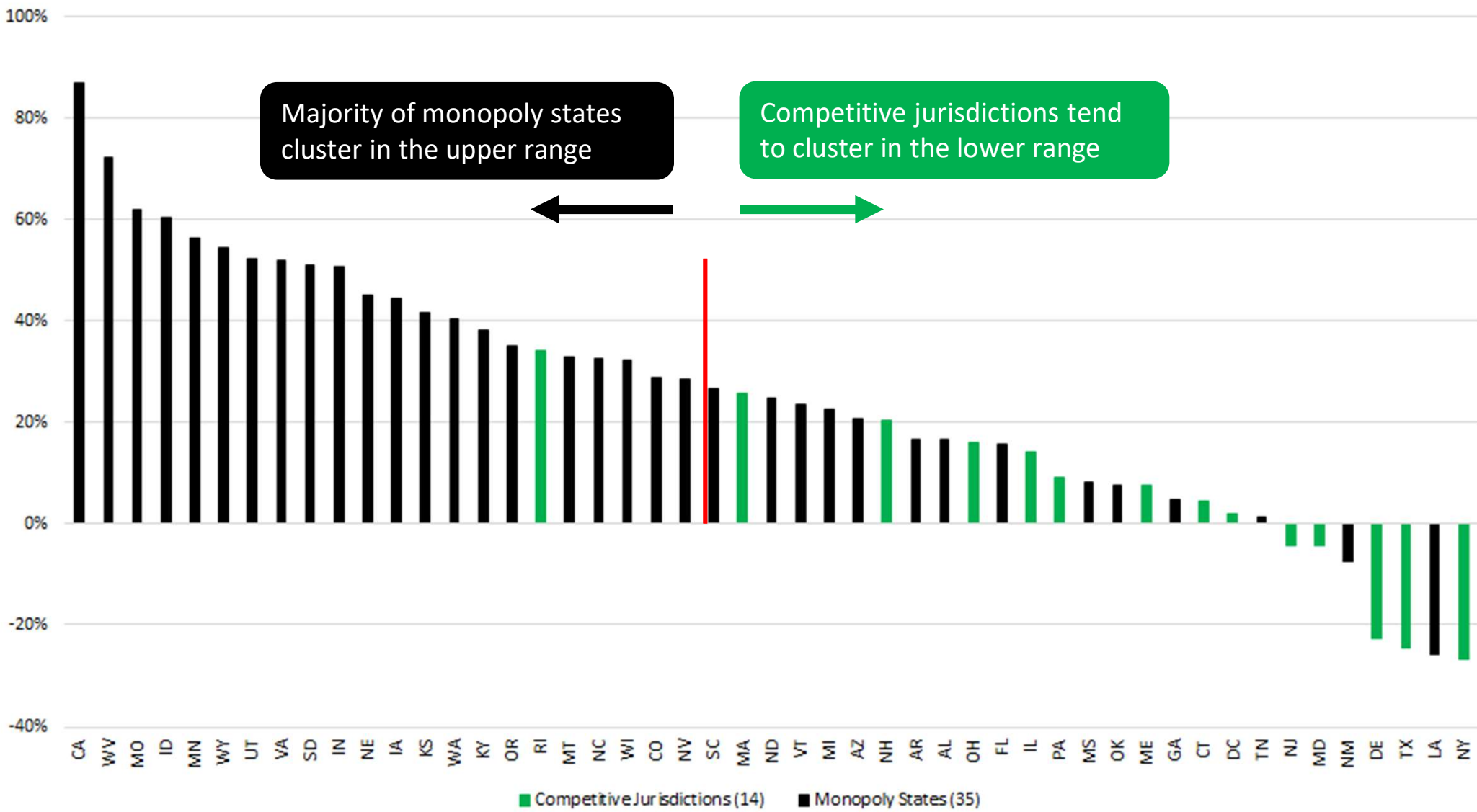
Figure 8 (page 6) of The Great Divergence and Figure 14 (page 19) of Restructuring Recharged - Updated through CY2023
DIVERGENT DIRECTIONS AND STATE RANKINGS

The significant difference in percentage changes in weighted average prices between the monopoly and competitive choice jurisdictions is not the result of a few large states skewing the results in one direction. Instead, when the states are ranked by percentage change in each state's average commercial price change over this period, the competitive states tend to cluster in the lower range, and the monopoly states tend to occupy the higher parts of the rankings.

Industrial Price % Price Change by State, 2008-2023

Figure 9 of The Great Divergence

Source: EIA-861M



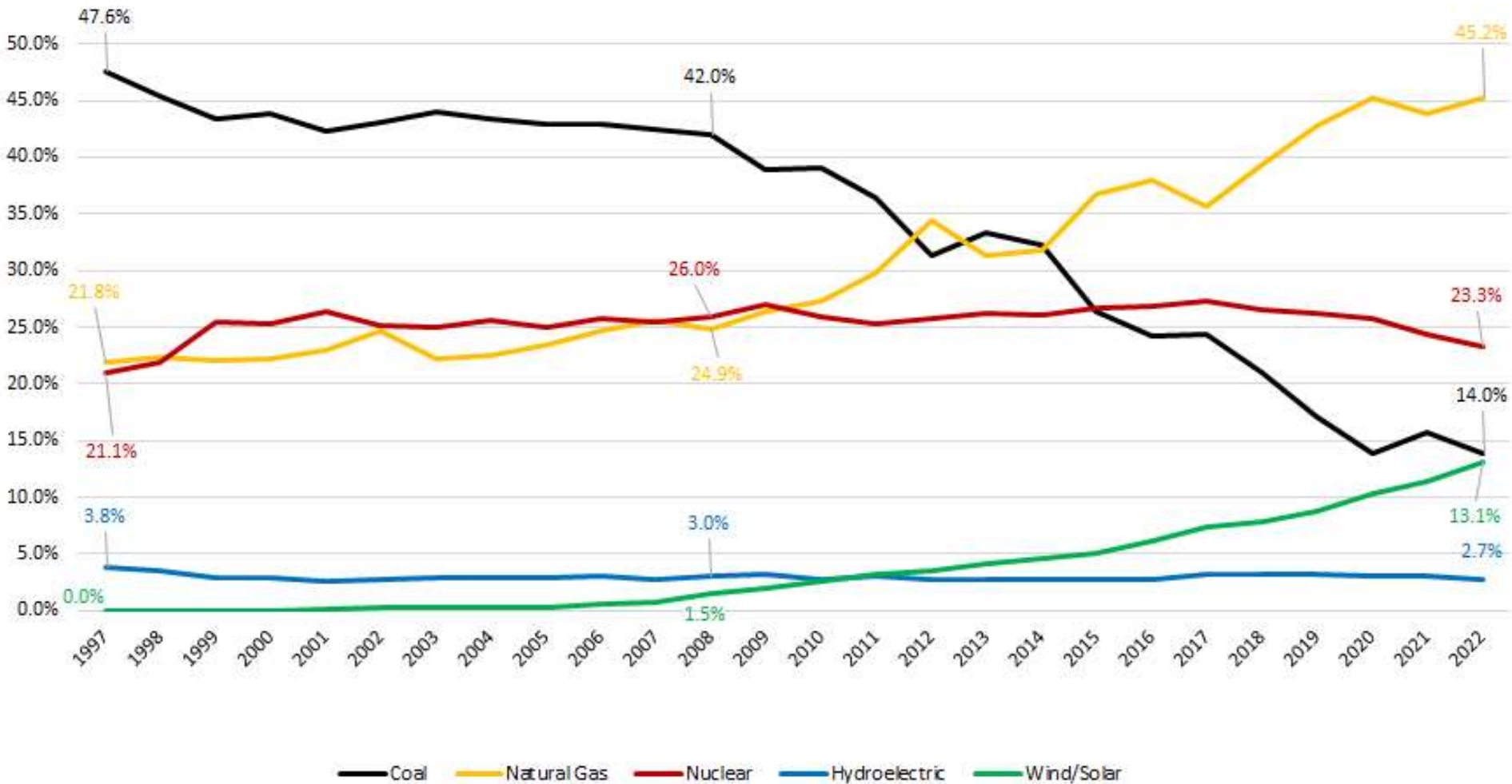
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DIVERGENT DIRECTIONS AND STATE RANKINGS

The significant difference in percentage changes in weighted average prices between the monopoly and competitive choice jurisdictions is not the result of a few large states skewing the results in one direction. Instead, when the states are ranked by the percentage change in each state's average Industrial price change over this period, the competitive states tend to cluster in the lower range, and the monopoly states tend to occupy the higher parts of the rankings. It is interesting to observe that the largest 21 Industrial price changes over this period are all monopoly states. Additionally, all 14 competitive states/jurisdictions reside on the right-hand side of this chart. Meanwhile, seven states have seen a net decline in prices since 2008, and five (out of seven) are competitive states.

Generation Percentages by Energy Type in the 14 Competitive States/Jurisdictions, 1997-2022

Figure 10 of The Great Divergence
 Source: EIA-861M



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Figure 10 (page 8) of The Great Divergence and Figure 23 (page 28) of Restructuring Recharged - Updated through CY2022

Figures 10 & 11 of The Great Divergence show the 2008-2022 comparative changes in the proportion of electricity production from the major sources in the 14 competitive states/jurisdictions and the 35 monopoly states, respectively. Since the commencement of the customer choice era and the shale gas revolution, natural gas has been on track to overtake coal regarding installed capacity and production. This has been true in the 14 competitive states/jurisdictions and the 35 monopoly states.

Figure 10 of TGD shows that in the 14 competitive states/jurisdictions during the beginning of the competitive era in 1997, coal accounted for 47.6% of generation, while natural gas plants constituted 21.8%. By year-end 2022, coal's share of generation output had dropped to **14.0%** while generation from natural gas had risen to **45.2%**. Figure 10 of TGD also indicates that 2012 was the first-year natural gas-fired electric power production exceeded coal production in the 14 competitive states/jurisdictions. This flip has occurred in the 35 monopoly states, too, but not until 2018 (as shown in Figure 11 of TGD).

Figure 10 of TGD shows that electricity customers in the 14 competitive states/jurisdictions have experienced the benefits of low gas prices more promptly and effectively than those in the 35 monopoly states. Despite coal reclaiming its top position in 2013 and 2014, natural gas generation production has exceeded coal generation production since 2015 in the 14 competitive states/jurisdictions. Meanwhile, in the 35 monopoly states, Figure 11 of TGD shows that natural gas generation production didn't exceed coal generation production until 2018. There are several reasons:

- Coal accounted for a greater share of generating capacity in monopoly states than in the customer choice states/jurisdictions where gas and nuclear are more prominent.
- In competitive states/jurisdictions, consumers pay only for the economic value of existing generating capacity, with prices set in open and transparent competitive auctions.
- In the 14 competitive states/jurisdictions, generating capacity is installed or taken out of service based on investor perceptions of the competitive economics. In the 35 monopoly states, utilities build, contract, or retire generating capacity under regulatory protocols that require consumers to pay for capacity irrespective of economic efficiency.

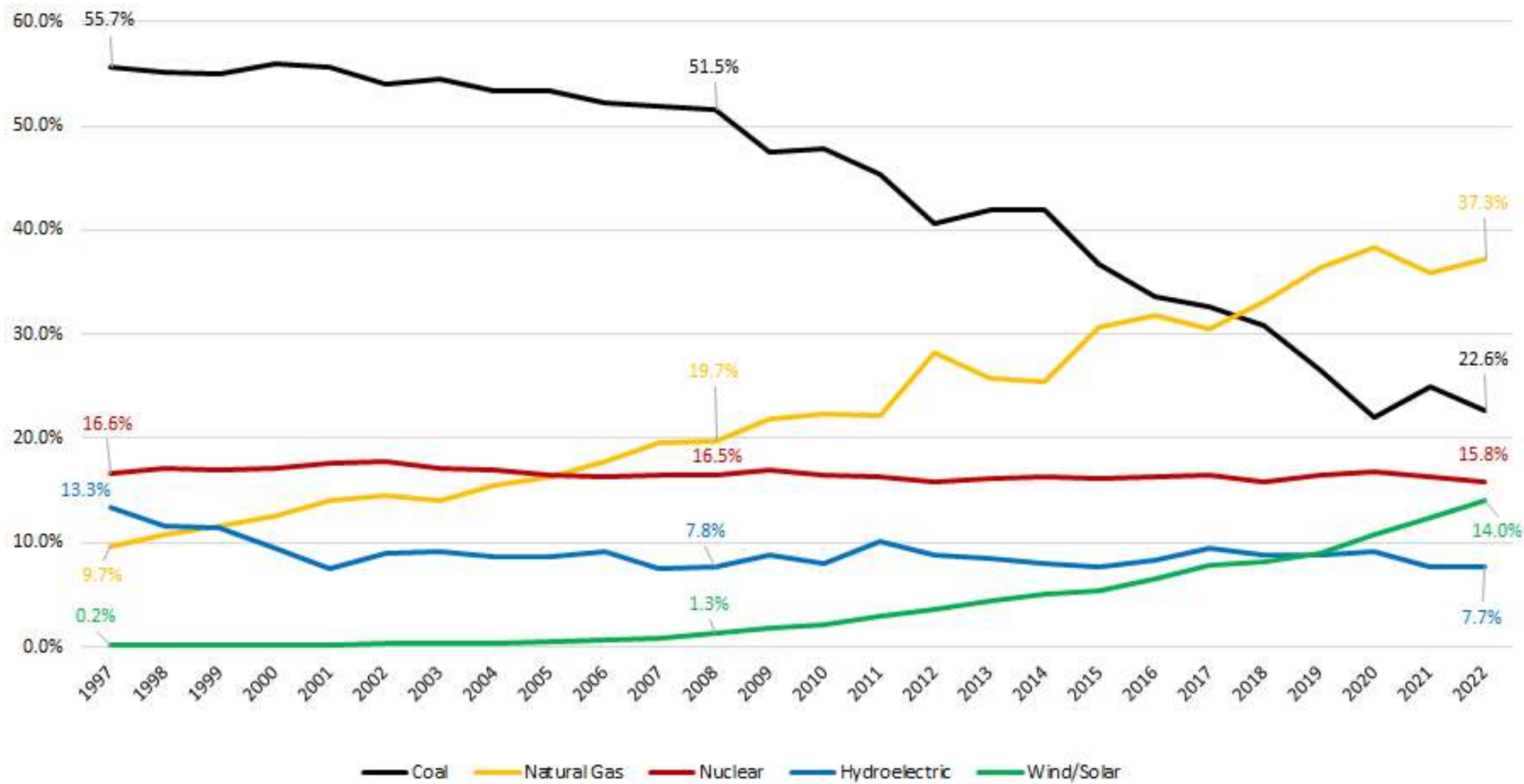
This data also supports that financial markets are willing to make billions of dollars in equity investment and low-cost debt available for non-utility generation, contradicting the claim that only a regulated monopoly could attract capital at favorable rates. Additionally, primarily commercial and industrial customers (which account for more than 60% of consumption) can adjust contract terms and prices to take advantage of market developments in the 14 competitive states/jurisdictions.

Additionally, as the relative shares of electricity production from gas and coal plants flipped, there has been a steady contribution of nuclear and a strong recent upswing in the role of renewables. Figures 10 and 11 of TGD show that wind and solar generation production is roughly equivalent in the 14 competitive states/jurisdictions (**13.1%**) and the 35 monopoly states (**14.0%**). However, it is interesting to observe that if California were excluded from the monopoly state wind/solar totals, the monopoly state wind/solar generation percentage would drop from 14.0% down to 13.0%.

Generation Percentages by Energy Type in the 35 Monopoly States, 1997-2022

Figure 11 of The Great Divergence

Source: EIA-861M



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Figure 11 of TGD shows that in the 35 monopoly states during the beginning of the competitive era in 1997, coal accounted for **55.7%** of generation, while natural gas plants constituted **9.7%**. By year-end 2022, coal's share of generation output had dropped to **22.6%** while generation from natural gas had risen to **37.3%**. Figure 11 of TGD also indicates that 2018 was the first-year natural gas-fired electric power production exceeded coal production in monopoly states. This flip occurred in 2012 in the 14 competitive states/jurisdictions, as shown in Figure 10 of TGD.

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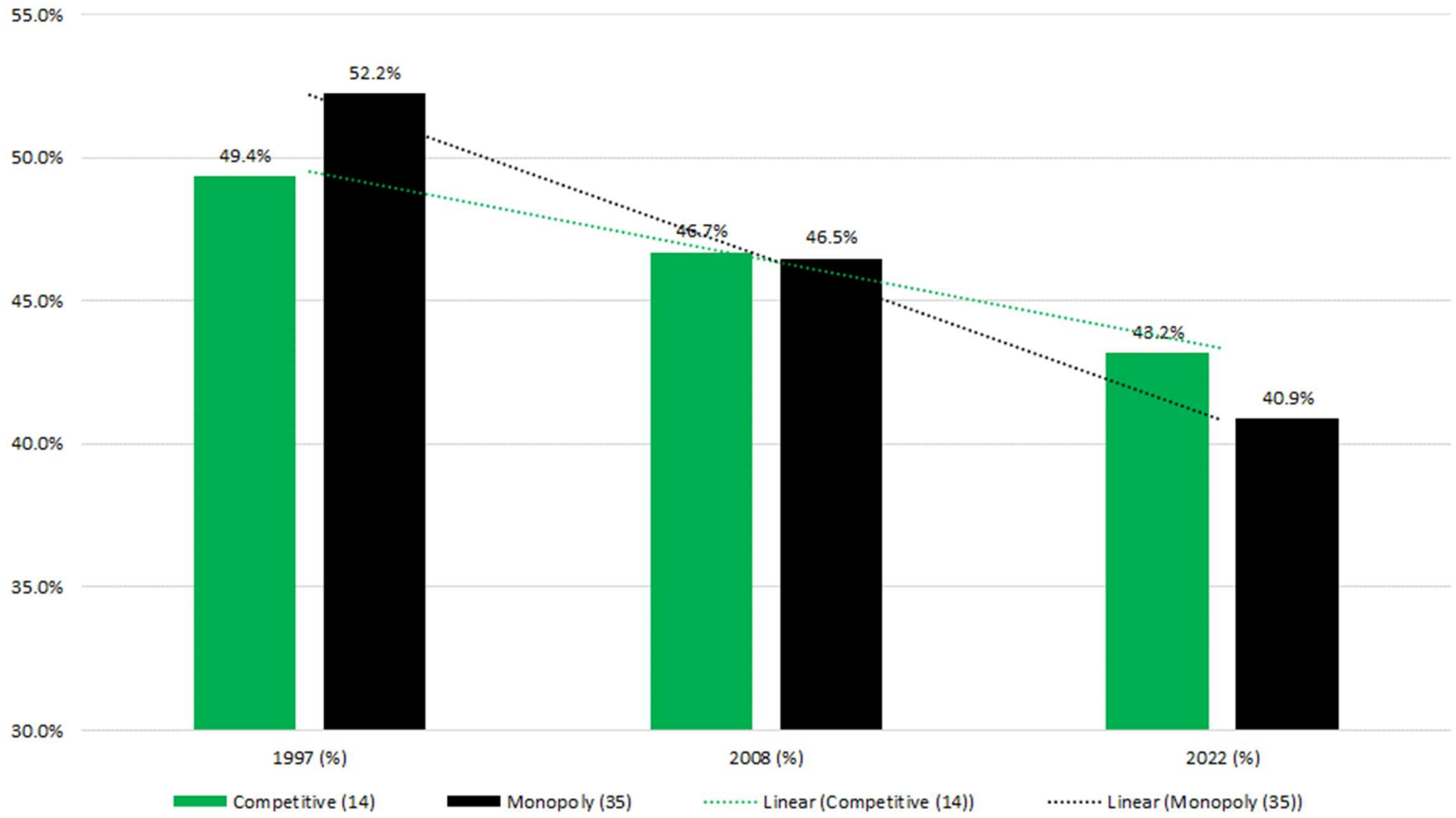
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Change in Capacity Factor, 1997, 2008 & 2022 (Generation Output/Potential Output)

Figure 12 of The Great Divergence

Source: EIA-860, EIA-923



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The “Capacity Factor” refers to the measurement of how often plants are operated at maximum output. In part, the explanation of the Great Divergence in price performance between the monopoly states and competitive jurisdictions is found in trend lines seen on this figure. While the capacity factors of both state groupings show a decline in capacity factor (due primarily to the deployment of renewable generation assets), the competitive jurisdictions have responded to this trend more cost effectively than have the monopoly states. The decline in the power plant portfolio capacity factor has been larger, both nominally and proportionally, in the 35 monopoly states than in the 14 competitive states/jurisdictions, as shown in this figure (note however, the increased negative slope of the black dotted line compared to the green dotted line).

The Capacity Factor in the 35 monopoly states declined from 52.2% in 1997 to **40.9%** in 2022 (**11.3% change**). That is a much more significant decrease in capacity factor compared to the much more modest decline in the 14 competitive states/jurisdictions from 49.4% in 1997 to **43.2%** in 2022 (**6.2% change**). Plant utilization, as measured by the Capacity Factor, has declined in far greater proportion in the group of monopoly states than in competitive states/jurisdictions due largely to the shift from coal toward gas, and to the deployment of renewables. However, as long as rate-based generation assets are considered “used and useful”—even if underutilized— full cost recovery is accorded in the Monopoly States, with consumers absorbing those costs; in contrast, underutilized or uneconomic generation assets in the 14 competitive states/jurisdictions will tend to experience adverse financial consequences under the same conditions. The difference is that investors, not customers, bear the risk of changing market fundamentals.