

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

|                                    |   |                           |
|------------------------------------|---|---------------------------|
| Pa. Public Utility Commission      | : |                           |
| v.                                 | : | Docket No. R-2020-3018835 |
| Columbia Gas of Pennsylvania, Inc. | : |                           |
|                                    | : |                           |

Direct Testimony of  
**Scott J. Rubin**

on Behalf of  
the Pennsylvania Office of Consumer Advocate

July 28, 2020

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## Introduction

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Q. Please state your name and business address.

A. My name is Scott J. Rubin. My business address is 333 Oak Lane, Bloomsburg, PA 17815.

Q. By whom are you employed and in what capacity?

A. I am an independent consultant and an attorney. My practice is limited to matters affecting the public utility industry.

Q. What is the purpose of your testimony in this case?

A. I have been asked by the Office of Consumer Advocate (“OCA”) to provide an overview of this case from a public policy perspective, particularly in light of the COVID-19 pandemic affecting the world at this time. I also will introduce the OCA’s other witnesses who will address various aspects of the rate request filed by Columbia Gas of Pennsylvania, Inc. (“Columbia” or “Company”).

Q. What are your qualifications to provide this testimony in this case?

A. I have testified on more than 200 occasions as an expert witness before utility commissions or courts in the District of Columbia, the province of Nova Scotia, and the states of Alaska, Arizona, California, Connecticut, Delaware, Illinois, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Mississippi, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, South Carolina, Washington, and West Virginia. I also have testified as an expert witness before two committees of the U.S. House of Representatives and various state and local legislative committees. I also have

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1 served as a consultant to the staffs of four utility commissions, several national utility  
2 trade associations in the United States, and state and local governments throughout the  
3 United States. Prior to establishing my own consulting and law practice, I was employed  
4 by the OCA from 1983 through January 1994 in increasingly responsible positions. From  
5 1990 until I left the OCA, I was one of two senior attorneys in that office. Among my  
6 other responsibilities in that position, I had a major role in setting the office's policy  
7 positions on water and electric matters. In addition, I was responsible for supervising the  
8 technical staff of the office. I also testified as an expert witness for the OCA on rate  
9 design, cost of service issues, and policy matters.

10 Throughout my career, I developed substantial expertise in matters relating to the  
11 economic regulation of public utilities. I have published articles, contributed to books,  
12 written speeches, and delivered numerous presentations relating to regulatory issues. I  
13 have attended numerous continuing education courses involving the utility industry. I  
14 also have participated as a faculty member in utility-related educational programs for the  
15 Institute for Public Utilities at Michigan State University, the American Water Works  
16 Association, and the Pennsylvania Bar Institute. My complete curriculum vitae is  
17 provided as Appendix A.

18 Q. Do you have any experience that is particularly relevant to the issues in this case?

19 A. Yes, I do. Over the years, I have testified concerning numerous types of regulatory  
20 policy issues before utility commissions and legislative committees. Obviously, before  
21 this year, I did not have experience recommending an appropriate regulatory response  
22 during a global pandemic, but I believe my more than 35 years of experience in utility

1 regulation can provide some useful insights and recommendations. Recently, I submitted  
2 testimony on the same topic in four rate proceedings, including two other gas distribution  
3 utilities operating in Pennsylvania.

4 Q. Do you have any other preliminary matters to address?

5 A. Yes. My testimony deals with regulatory policy issues. Given the nature of public utility  
6 regulation, much of the public policy in this field is contained in decisions by regulatory  
7 agencies and courts; or in statutes, ordinances, or regulations. I may be citing or  
8 referring to these types of sources. This should not be taken as a legal opinion (though I  
9 am qualified to provide expert testimony as a regulatory attorney in Pennsylvania), but  
10 rather as sources supporting my expert opinion concerning appropriate public policy and  
11 regulatory practice.

12 **Summary**

13 Q. Please summarize your conclusions and recommendations.

14 A. I summarize my conclusions and recommendations as follows:

- 15
- 16 • As a consequence of the pandemic devastating the health and economy of  
17 the Commonwealth and the world, the Commission cannot rely on many  
18 of the assumptions made in Columbia's filing. It also would not be just or  
reasonable to impose a rate increase on customers at this time.
- 19
- 20 • I recommend that the Commission deny any rate increase to Columbia in  
21 this case.

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## Purpose of this Case

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Q. What is your understanding of the purpose of this proceeding?

A. As I understand it, the purpose of this case is to determine the “just and reasonable” rates for Columbia under Chapter 13, and other provisions, of the Public Utility Code.

Q. In your more than 35 years of experience with utility rate-setting, are there standards or criteria used to determine whether a rate is “just and reasonable”?

A. Yes. There are thousands of administrative and judicial decisions throughout the United States that interpret the phrase “just and reasonable” as it relates to utility rates. Without going into all of the nuances and jurisdictional differences that arise from those decisions, and without providing a legal opinion, I will provide my general understanding of how that phrase is used in the field of public utility ratemaking.

In general, we regulate the rates (and other terms of service) of public utilities because they are natural monopolies, meaning that it would be economically inefficient (more expensive) to have competing enterprises provide the service. It is often stated that regulation is a substitute for competitive market forces. At its core, regulation is designed to protect utility consumers from what otherwise would be the unfettered power of a monopoly to set prices and the conditions of service. In protecting consumers, however, regulators cannot confiscate the property of the utility’s investors. That is, regulators cannot tilt the scale so far in favor of consumers (for example by providing free service) that the utility’s investors are deprived of an opportunity to earn a reasonable return on their investment.

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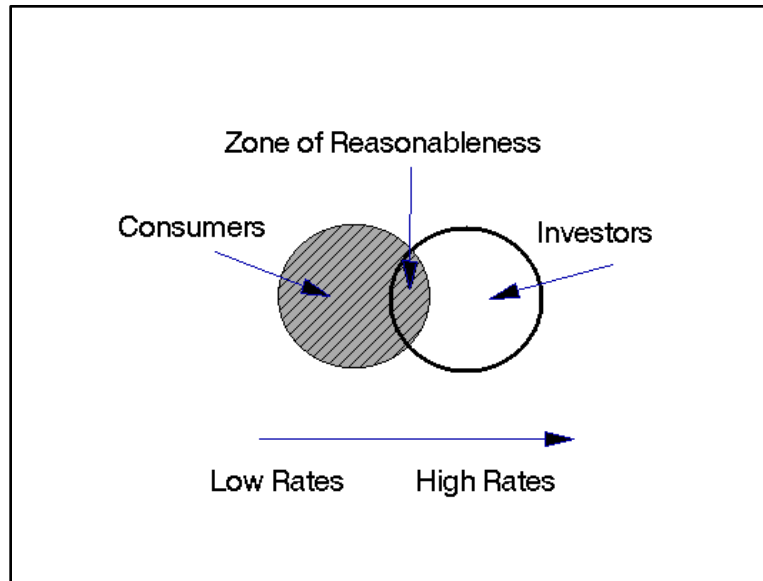
1           Importantly, though, regulation is not designed to insulate the utility or its  
2 investors from normal market forces, technological improvements, or general economic  
3 conditions. If market forces (such as technological change) result in significant  
4 reductions in the demand for service, then the utility may not be able to recover its costs.  
5 That is not a failure of regulation, but a natural evolution of the market -- businesses fail  
6 if they cannot keep up with changes in consumers' preferences or respond to  
7 technological innovations.

8           Similarly, if economic conditions change such that rates become unaffordable to  
9 many customers, rates may need to be reduced in order to remain "just and reasonable"  
10 from the perspective of customers.

11 Q. Is there a general framework in which to evaluate whether a rate is just and reasonable?

12 A. Yes, regulators, analysts, and courts often speak of a "zone of reasonableness." In setting  
13 rates, regulators should attempt to balance the interests of all relevant sectors of the  
14 public. This includes the utility's investors, the utility's officers and employees, the  
15 customers (recognizing that different customer classes also have different interests), and  
16 local governments whose residents are served by the utility. Ideally, rates should be set  
17 within a "zone of reasonableness" which represents a range within which all of the  
18 relevant interests intersect. To help explain the concept, I have provided Figure 1 which  
19 illustrates this zone of reasonableness as a simplified diagram, showing only consumers  
20 as a whole and investors.

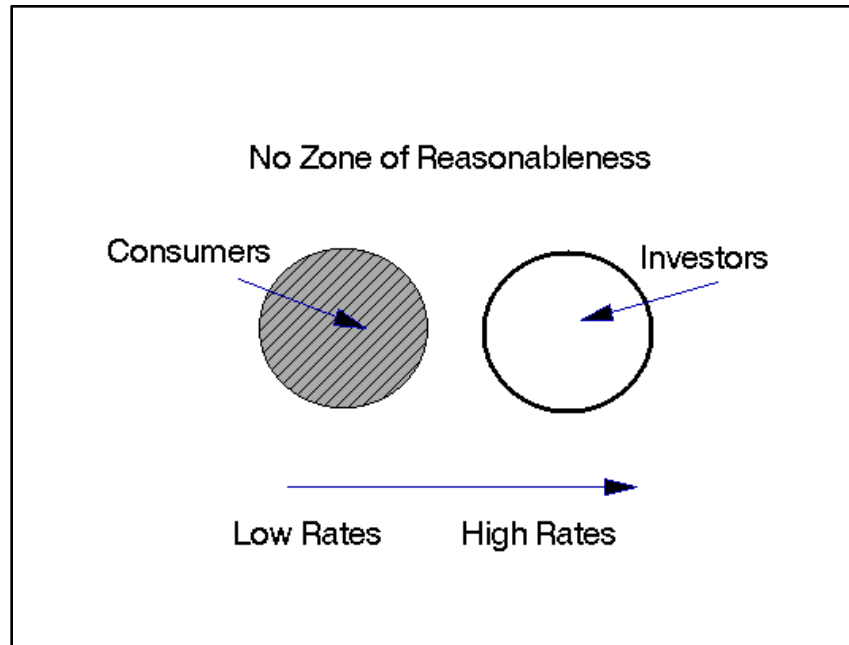




**Figure 1. Traditional Zone of Reasonableness**

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4           In this example, which illustrates the situation in which rate regulators usually  
5 find themselves, there is an overlap between the interests of consumers and investors.  
6 That is, there is a range of rates that consumers are willing and able to pay (ranging from  
7 zero at the low end to a rate which is so high that they can no longer afford utility  
8 service) and a range of rates which will provide investors with what they consider to be a  
9 reasonable return on their investment (presumably ranging from something more than the  
10 risk-free rate of return up to a return well above that which the market provides to  
11 similar-risk investments). In this illustration, these two ranges overlap. This provides the  
12 regulator with a range within which it can set rates that still meet the needs of both  
13 consumers and investors. The size and relative position of the range may change, but we  
14 are used to having at least a partial convergence of these ranges.

15           It is possible, however, that the interests of investors and consumers might  
16 diverge. This divergence is illustrated in Figure 2.



1  
2 **Figure 2. Divergent Interests: A Null Zone of Reasonableness**  
3

4 For example, if a utility is providing poor service (or a service which is becoming  
5 obsolete), the highest price which consumers are willing to pay may be very small,  
6 thereby falling below the low end of the investors' range. Similarly, if interest rates or  
7 the levels of investment become very high, investors' minimum return requirements may  
8 become so high as to fall above the range of rates which consumers can afford to pay.  
9 When this happens, the rate regulators may have to set rates which fall outside of the  
10 normal zone of reasonableness, but which still attempt to fairly balance the interests of all  
11 parties to the extent possible.

12 It also must be remembered that while these concepts can be easily illustrated  
13 using circles on a diagram, the real world is not so simple. There is no bright line  
14 delineating any of these interests. The regulator is forced to discern the relative interests  
15 of the parties from the arguments and evidence which are placed on the record.

1 Q. Are you saying that the Commission should not set rates outside the zone of  
2 reasonableness?

3 A. No, I am not saying that. In fact, in certain instances it may be impossible for the  
4 Commission to simultaneously satisfy all aspects of the public interest. As I view the  
5 role of rate regulators, they must act within the broad public interest. Sometimes, that  
6 may mean setting rates which fail to meet the needs of a certain segment of the public. I  
7 believe, however, that whenever it sets rates, the Commission must attempt to determine  
8 whose needs are being met and whose are not.

9 Q. Isn't that usually done in the traditional ratemaking process?

10 A. Unfortunately, it is not usually done. In most cases, the investors' interest becomes a  
11 central focus of the case, by attempting to determine the return on capital which investors  
12 require in order to continue to invest money in the utility. This is usually examined in  
13 great detail, with each side spending thousands of dollars on attorneys and expert  
14 witnesses skilled in the presentation of this subject. Very rarely, though, do regulators or  
15 parties place as much emphasis on attempting to define the consumers' interest.

16 **Determining “Just and Reasonable” Rates at this Time**

17 Q. You have testified on numerous occasions before this Commission. Do you always go  
18 into such detail about “just and reasonable” rates or the “zone of reasonableness”?

19 A. No. As best as I can recall, prior to this year, the only time I raised these issues in such  
20 detail before this Commission was in 1993 in a rate case involving Colony Water  
21 Company, Docket No. R-00922375. As I remember it, that utility was proposing  
22 extremely high rates that would be unaffordable for many of its customers. I

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1 recommended a ratemaking approach that would have set rates based on the rates charged  
2 by that small utility's water supplier, even though the rates would be below the traditional  
3 revenue requirement calculation for the utility.

4 Q. Why are you raising these concerns in this case?

5 A. Columbia filed this case on April 24, 2020, when its service area -- indeed the entire  
6 world -- was being devastated with the worst pandemic in a century. While I understand  
7 that it takes months to prepare a rate filing, and that Columbia prepared this case  
8 assuming "business as usual," there was nothing that compelled it to actually file the  
9 case. To state the obvious, life and business in the Company's service territory are now  
10 anything but normal.

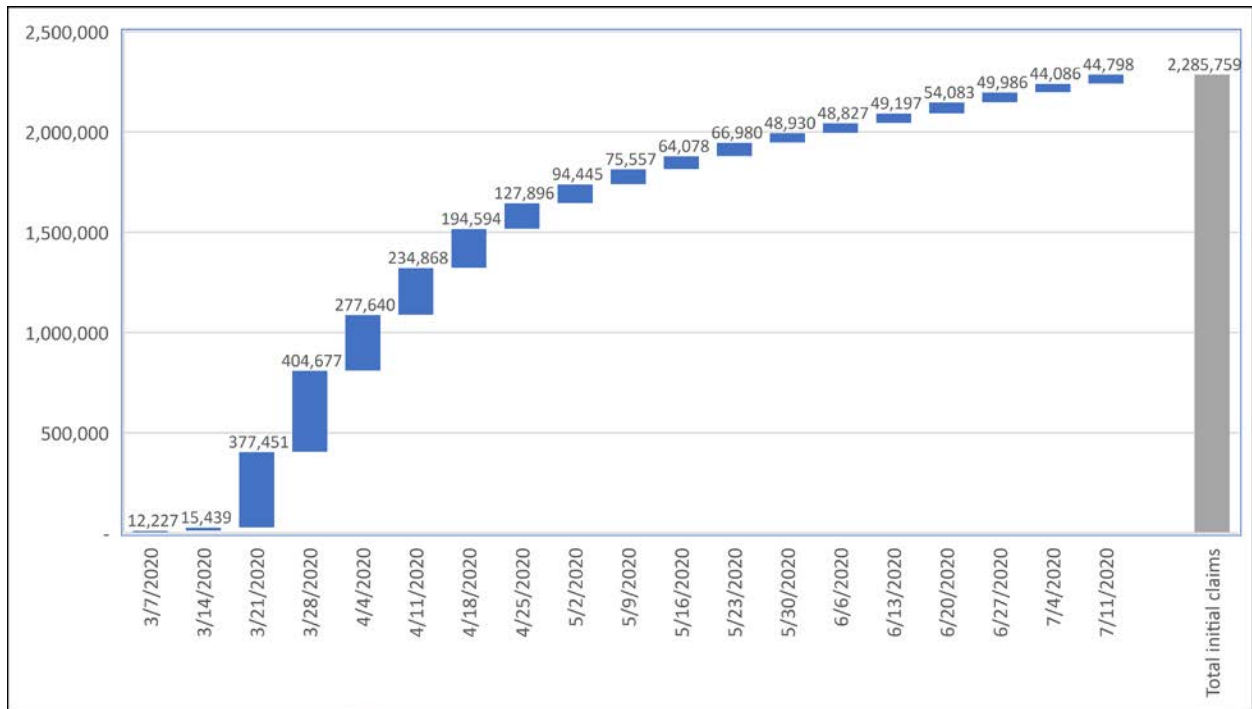
11 In particular, I am very concerned about the impact that significant rate increases  
12 would have on Columbia's customers at this time. To be blunt, this is not the time to  
13 impose higher costs on either people or businesses.

14 If regulation is supposed to be a substitute for market forces, then we must  
15 recognize that, except for those commodities experiencing significant imbalances of  
16 supply and demand due to the pandemic, competitive businesses cannot sustainably raise  
17 prices when their customers' incomes have decreased significantly. We're seeing supply  
18 gluts of necessities such as gasoline, certain types of food, skyrocketing unemployment,  
19 and a significant reduction in hours for many people who are still employed. Simply  
20 stated, what may have been a "just and reasonable" rate earlier this year may be  
21 unreasonable today.

**The Pandemic’s Impact on People**

Q. Can you be more specific about the impacts of the pandemic on people in the Company’s service area and throughout Pennsylvania?

A. Yes, I can be more specific to some extent. Data on new statewide unemployment claims are released each week, but county-level data are released only monthly. Figure 3 shows the devastating effect the pandemic has had on unemployment in the Commonwealth.



**Figure 3. Initial Unemployment Claims in Pennsylvania: Weeks Ending March 7 to July 11, 2020**

The huge spike in unemployment claims during the weeks ending March 21 and March 28 coincides with the entry of the Governor’s order of March 19 closing all dine-in restaurants on that date and all non-life-sustaining businesses on March 21. To put these figures in perspective, according to the U.S. Census Bureau, Pennsylvania had a

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1 workforce of approximately 6,576,000 people in 2018.<sup>1</sup> In the past four months,  
2 approximately 2.29 million Pennsylvanians have filed initial unemployment claims --  
3 almost 35% of Pennsylvania's workforce.

4 Q. Can you quantify the pandemic's impact on employment in Columbia's service territory?

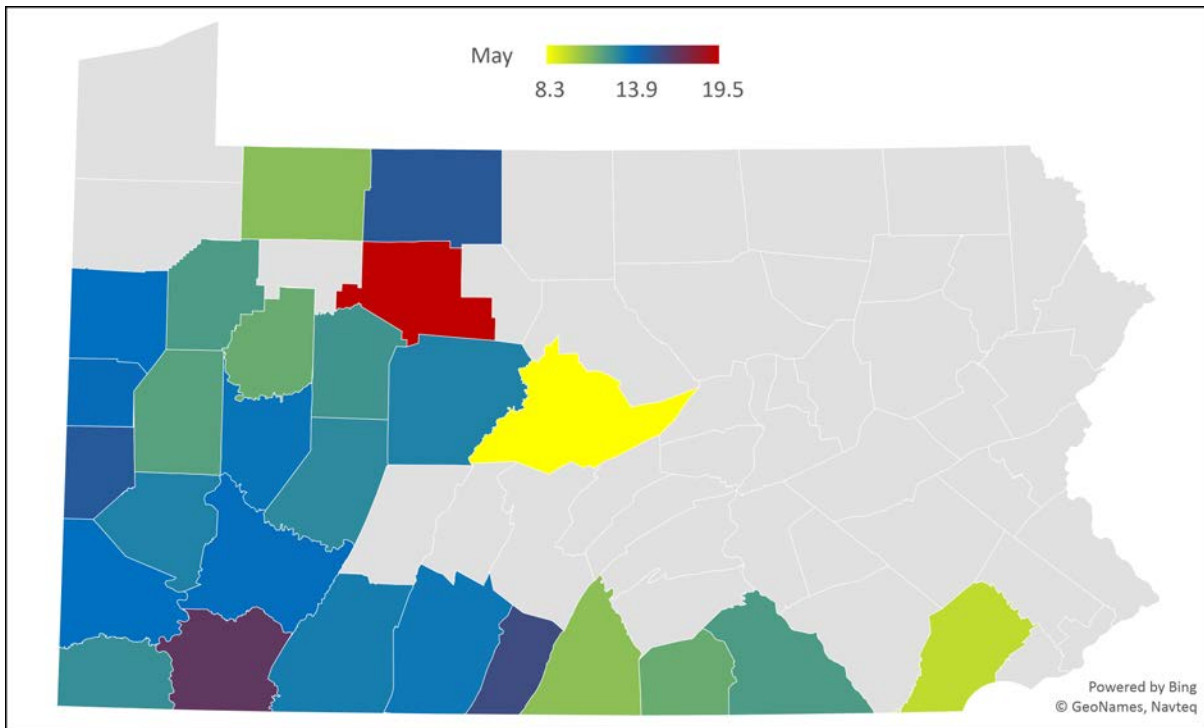
5 A. County-level unemployment data are published monthly in Pennsylvania. As I am  
6 preparing this testimony, the most recent information was published on June 30. The  
7 data are labeled for the month of May, but they are collected during the second week of  
8 each month. The number of initial unemployment claims per week has declined since  
9 mid-May, though initial claims remain at approximately three times the pre-pandemic  
10 level of initial unemployment claims.

11 Q. Can you estimate the effects on employment in the counties Columbia serves?

12 A. Yes. Figure 4 shows the counties served (in whole or in part) by the Company and their  
13 unemployment rates as of mid-May. The rates range from 8.3% in Centre County to  
14 19.5% in Elk County. The underlying data for this and the other county-level figures I  
15 discuss are provided in Schedule SJR-1.

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<sup>1</sup> U.S. Census Bureau, 2018 American Community Survey, Table S2301: Employment Status.



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**Figure 4. Unemployment Rate in Counties Served  
by Columbia, as of mid-May 2020**

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Q. Generally, what effect has the pandemic had on families' finances?

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A. The Federal Reserve System is attempting to measure the effects of the pandemic on household finances. On May 14, 2020, the Federal Reserve System released its annual report on the economic well-being of households.<sup>2</sup> Most of the report is based on surveys conducted during 2019, but a supplemental survey was conducted in the first week of April 2020 to assess the impacts of the pandemic on household finances. I am attaching as Schedule SJR-2, the cover page and the portion of the report dealing with the April 2020 supplemental survey (pages 53-56 of the report).

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<sup>2</sup> Board of Governors of the Federal Reserve System, Report on the Economic Well-Being of U.S. Households in 2019, Featuring Supplemental Data from April 2020 (May 2020), <https://www.federalreserve.gov/publications/files/2019-report-economic-well-being-us-households-202005.pdf>.

1           The survey found that “20 percent of people who had been working in February  
2           reported that they lost a job or were furloughed in March or the beginning of April  
3           2020.”<sup>3</sup> Among lower-income households, however, the impact was even more severe.  
4           The report states: “Thirty-nine percent of people working in February with a household  
5           income below \$40,000 reported a job loss in March.”<sup>4</sup> Further, approximately 9 percent  
6           of people who were still working had their hours reduced or were required to take unpaid  
7           leave.<sup>5</sup>

8           Overall, “23 percent of adults said their income in March was lower than in  
9           February.”<sup>6</sup> Of those who lost their job or had their hours reduced, only 64% said they  
10          would be able to pay all of their bills in full during April.<sup>7</sup> That is, more than one-third  
11          of the families that suffered a loss in income during March will not be able to pay all of  
12          their bills the following month.

13          Data for Pennsylvania show an even more serious result. The U.S. Census  
14          Bureau has been conducting weekly surveys of households since April 23. In the first  
15          week, 46.9% of Pennsylvania households reported a loss of at least some employment  
16          income since March 13. By the eleventh week of the survey (the week ending July 14),  
17          that had risen to about 50% of households, as shown in Figure 5.<sup>8</sup>

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<sup>3</sup> Schedule SJR-2, p. 2.

<sup>4</sup> Id.

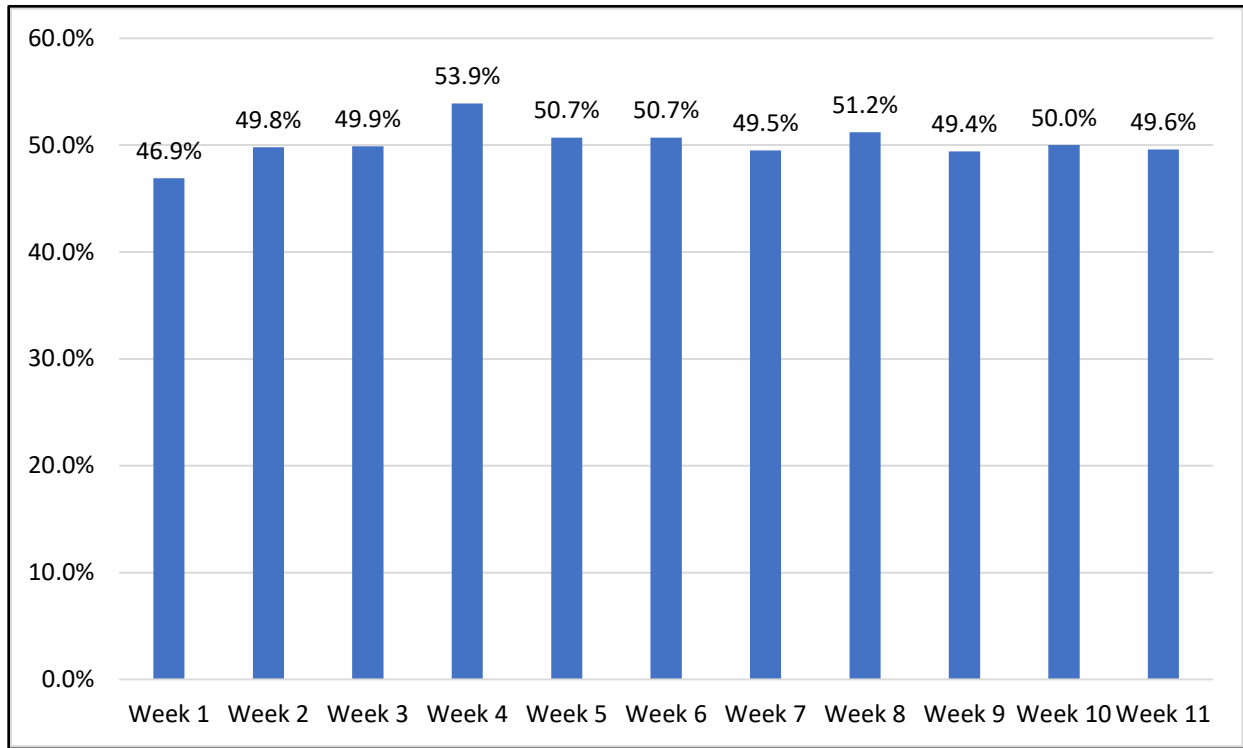
<sup>5</sup> Id. The report states that 6% of all adults had their hours reduced. Given the number of all adults in the workforce, this would equate to approximately 9% of working adults.

<sup>6</sup> Id., p. 3.

<sup>7</sup> Id., pp. 3-4.

<sup>8</sup> U.S. Census Bureau, Household Pulse Survey, <https://www.census.gov/data-tools/demo/hhp/#/table>.





**Figure 5. Percentage of Pennsylvania Households Experiencing Loss in Employment Income Since March 13 (week 1 begins April 23)**

Q. Does the Census Bureau’s Household Pulse Survey contain other information that helps to define the scope of the pandemic’s impacts in Pennsylvania?

A. Yes. In addition to asking about income loss during the pandemic, the Census survey also asks about expected income loss during the next four weeks. The results in Schedule SJR-3 were collected during the week ending July 14, so the next four weeks cover the remainder of July and the first week or so of August. Almost one-third (31.7%) of Pennsylvania’s workforce expects to suffer an additional income loss during that four-week period.

I also find it noteworthy that the lower a household’s income, the greater the impact of the pandemic on income loss. Similarly, households headed by a person who

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1 the Census Bureau categorizes as being Black, Hispanic, or Asian are much more likely  
2 to have experienced an income loss -- and to expect additional income loss during July  
3 and into August -- than are households headed by a White, Non-Hispanic person.

4 Q. With such a significant loss of income, how are Pennsylvanians paying their bills?

5 A. The Census Bureau's Household Pulse Survey began asking exactly that question in  
6 week 7 of the survey; specifically, asking how households that lost some of their  
7 employment income paid their bills in the past seven days. In Schedule SJR-4, I show  
8 the results for the most recent week of the survey, the week ending July 14. People were  
9 able to report multiple sources of funds to pay their bills. Only 56% of Pennsylvanians  
10 who lost income said they used their normal source of income to pay bills in the previous  
11 week. About 24% cited unemployment benefits and 29% referred to the CARES Act  
12 stimulus payments. More people, however, relied on credit card debt or loans (including  
13 loans from family or friends) (48%) or money from savings or asset sales (31%) than  
14 relied on short-term government benefits.

15 Q. Are people concerned about being able to afford their utility bills during this time?

16 A. Yes. A recent survey conducted by the Electric Power Research Institute ("EPRI") found  
17 that about two-thirds of people who lost their jobs during the pandemic are concerned  
18 about being able to pay their energy bills.<sup>9</sup> Moreover, more than 20% of survey  
19 respondents reported that their energy bills were higher because of the pandemic.<sup>10</sup>

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<sup>9</sup> Omar Siddiqui and Min Long, Impact of COVID-19 on Consumer Energy Use & Outlook: Results of EPRI National Survey (April 29, 2020), [http://mydocs.epri.com/Docs/public/covid19/COVID-19\\_survey\\_report.pdf](http://mydocs.epri.com/Docs/public/covid19/COVID-19_survey_report.pdf), a copy of which is attached as Schedule SJR-5. The referenced question is on page 4 of Schedule SJR-5.

<sup>10</sup> Schedule SJR-5, p. 3.

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1           Interestingly, the survey also found that more than 25% of people who lost their jobs are  
2           planning to skip at least one utility bill payment,<sup>11</sup> but a much lower percentage were  
3           planning to contact their utilities for assistance.<sup>12</sup>

4           ***The Pandemic's Impact on Small Businesses***

5   Q.       Are there any indicators of the condition of Pennsylvania's economic outlook as a result  
6           of the pandemic?

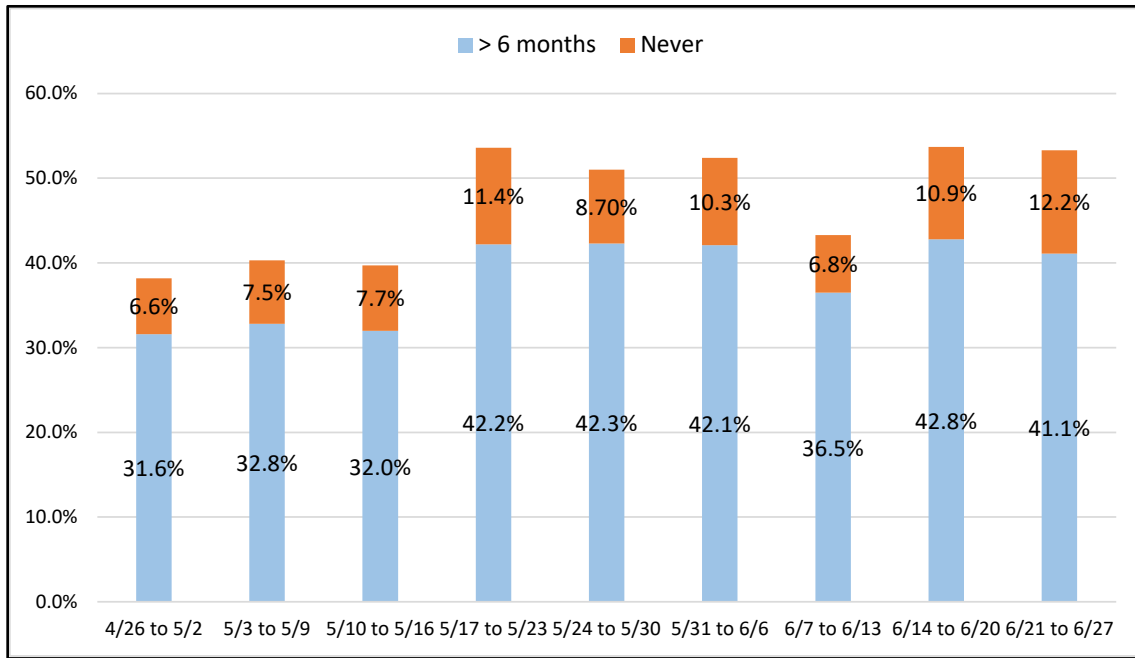
7   A.       Yes. A recently initiated small-business survey by the U.S. Census Bureau provides  
8           insights into the condition of small businesses in Pennsylvania. The Census Bureau  
9           estimates that, as of the week ending May 2, 31.6% of small businesses in Pennsylvania  
10          said they would not return to normal operations for more than six months and 6.6% of the  
11          Commonwealth's small businesses expected to never return to their pre-pandemic level  
12          of operations.<sup>13</sup> By the end of June (the last week of data collected), the small-business  
13          outlook was considerably worse with more than 50% of businesses selecting these two  
14          categories. I show the trend over the survey's nine weeks graphically in Figure 7.

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<sup>11</sup> Schedule SJR-5, p. 7.

<sup>12</sup> Schedule SJR-5, p. 12 (15% of those who lost their jobs said they planned to contact the utility about alternate rate plans or other ways to lower their bills).

<sup>13</sup> U.S. Census Bureau, Small Business Pulse Survey, <https://www.census.gov/data/experimental-data-products/small-business-pulse-survey.html>.



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**Figure 7. Percentage of Small Businesses in Pennsylvania Expecting it to Take at Least Six Months to Return to Usual Level of Operations (April 26 to June 27, 2020)**

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Q. Has there been an overall assessment of the pandemic’s effects on Pennsylvania’s economy?

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A. Yes. Each month, the Federal Reserve Bank calculates a “coincident index” for each state and the country as a whole. The index is described as follows: “The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing by production workers, the unemployment rate, and wage and salary disbursements plus proprietors’ income deflated by the consumer price index (U.S. city average).”<sup>14</sup> The index is set so that the level of economic activity in 2007 is equal to 100.

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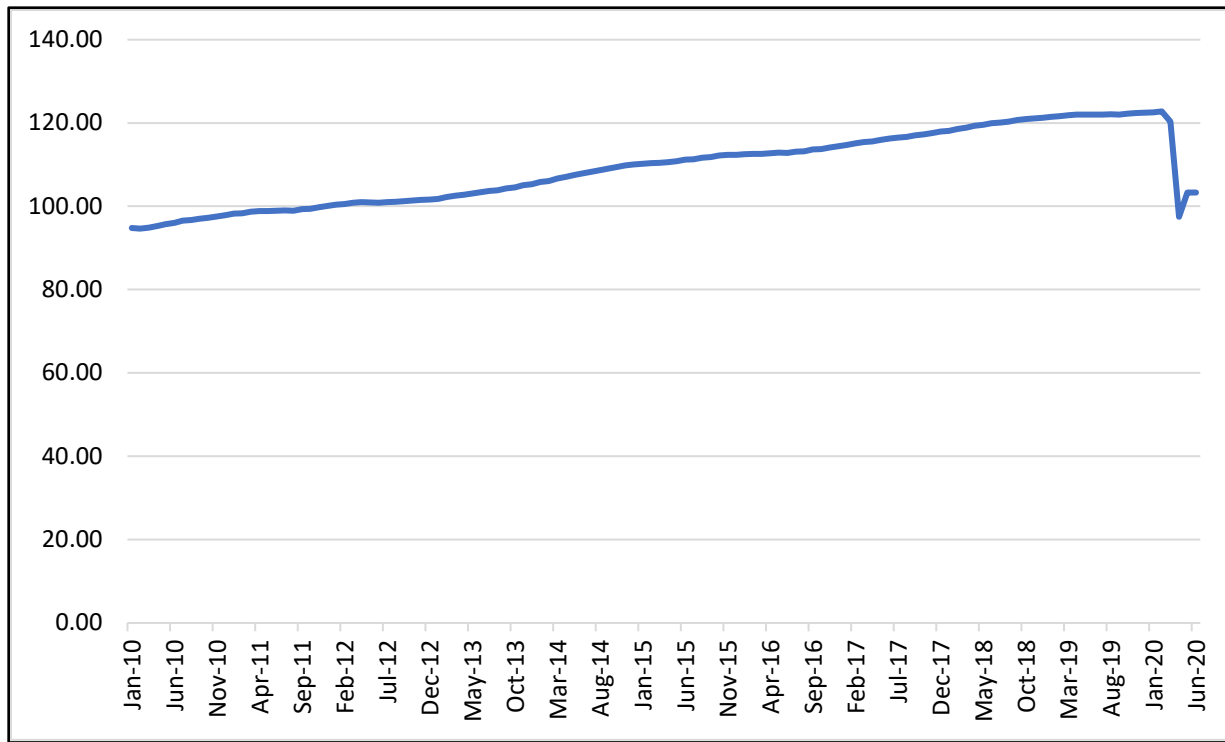
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<sup>14</sup> <https://www.philadelphiafed.org/research-and-data/regional-economy/indexes/coincident>

1           Between January and April, Pennsylvania’s coincident index plunged from  
 2           122.56 to 97.43, a decline of 20%. The index recovered to 103.28 in June, which is still  
 3           16% below the pre-pandemic level of economic activity. Indeed, Figure 8 shows that  
 4           Pennsylvania’s level of economic activity in April was the lowest it had been in a decade.



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 6           **Figure 8. Federal Reserve Bank Coincident Index**  
 7           **(Measure of Economic Activity) in Pennsylvania January 2010 to June 2020**  
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9           **Regulatory Response**

10    Q.    How does this affect the decisions the Commission must make in this case?  
 11    A.    Faced with this unprecedented public health and economic crisis, I respectfully submit  
 12           that the Commission cannot treat this case as “business as usual.” Almost no other  
 13           business in Columbia’s service area is conducting business as usual; residential  
 14           consumers are using Columbia’s services differently than they do during normal

1 circumstances (few if any people are usually at home 24 hours per day, 7 days a week,  
2 preparing every meal at home, and so on).

3 Respectfully, the Commission cannot focus on Columbia’s historic costs, or on  
4 cost projections prepared before the pandemic, and assume that the resulting rates will be  
5 “just and reasonable.” The Commission must focus on what rates are reasonable for  
6 consumers to pay under these extraordinary conditions.

7 Q. Are you aware of any regulatory precedents that discuss ratemaking during a pandemic?

8 A. While the research is difficult (especially with most libraries closed), there is some  
9 precedent from regulatory commissions during the last nationwide pandemic, the  
10 influenza pandemic in 1918 and 1919. From these early days of utility regulation in this  
11 country, it was recognized that circumstances in the economy (including disease  
12 outbreaks) could affect utilities in the same way that other businesses were affected.  
13 When that occurred, regulation would not protect utilities from the adverse consequences.

14 I have not conducted exhaustive research, but I did locate a case decided by the  
15 Supreme Judicial Court of Massachusetts in 1919 where the owner of a streetcar service  
16 challenged a public service commission ratemaking order.<sup>15</sup> Among the challenges faced  
17 by the business in 1918 were increases in the cost of raw materials (presumably due to  
18 the war effort), reduction in ridership, and “the wide prevalence of the epidemic known  
19 as influenza, a factor seriously affecting receipts during October and November, 1918.”<sup>16</sup>

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<sup>15</sup> *Donham v. Public Service Commission*, 232 Mass. 309, 122 N.E. 397 (1919).

<sup>16</sup> *Id.*, 232 Mass. at 315, 122 N.E. at 400.

1           The Massachusetts court cited with approval a federal appellate decision that held  
2           as follows:

3           To be just and reasonable, within the meaning of the constitutional  
4           guaranty, the rates must be prescribed with reasonable regard for the cost  
5           to the carrier of the service rendered and for the value of the property  
6           employed therein; but this does not mean that regard is to be had only for  
7           the interests of the carrier, or that the rates must necessarily be such as to  
8           render its business profitable, for reasonable regard must also be had for  
9           the value of the service to the public. And where the cost to the carrier is  
10          not kept within reasonable limits, or where for any reasons its business  
11          cannot reasonably be so conducted as to render it profitable the misfortune  
12          must fall upon the carrier, as would be the case if it were engaged in any  
13          other line of business.<sup>17</sup>

14          The court went on to uphold the regulatory commission's ratesetting order that  
15          was not expected to result in the utility earning a profit. The court reasoned that "the  
16          times are recognized as abnormal," but that did not deprive the commission of its  
17          regulatory responsibility to "exercise its judgment for the protection of the public  
18          interests when it does not reduce substantially the revenue proposed to be exacted from  
19          the public by the owners of the public utility."<sup>18</sup> The court also emphasized that the rates  
20          were "likely to be impermanent and experimental."<sup>19</sup>

21          In other words, the idea that ratemaking must adapt to extraordinary conditions is  
22          neither new nor novel. A century ago during another serious pandemic, regulators  
23          adapted, took actions that provided relief to the public, and did not inflict long-term harm  
24          on the utility.

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<sup>17</sup> *Id.*, 232 Mass. at 317, 122 N.E. at 401 (emphases added; quoting from *Missouri, Kansas & Topeka Railway Co. v. Interstate Commerce Commission*, 164 Fed. 645 (1908)).

<sup>18</sup> *Id.*, 232 Mass. at 326, 122 N.E. at 405.

<sup>19</sup> *Id.*

1 Q. How are other utilities and regulators addressing these unprecedented circumstances?

2 A. I have not conducted exhaustive research to try to identify every regulatory and utility  
3 response to ratesetting during the pandemic. I can, however, provide a few examples.

4 Hydro One, a large electric utility in Ontario, Canada, temporarily modified its  
5 rate structure to eliminate peak-period pricing, recognizing that people are at home 24-  
6 hours per day and cannot avoid peak-period usage. The utility estimates this will reduce  
7 a typical customer's bills by more than 14%.<sup>20</sup>

8 The Halifax (Nova Scotia) Regional Water Commission withdrew its request to  
9 increase water rates. It also delayed and significantly reduced its proposed increase in  
10 wastewater rates.

11 Utilities throughout the United States also are deferring rate increases or  
12 implementing rate reductions during this period. These actions provide some relief to  
13 customers who are facing a horrible confluence of events: an increase in home utility bills  
14 (as they are home essentially 24 hours per day, 7 days per week) coupled with declines in  
15 income. A few examples are summarized as follows:

- 16
- 17 • Dominion Energy in South Carolina is pushing back the effective date for  
its rate increase to March 1, 2021, instead of January 1, 2021.<sup>21</sup>
  - 18 • Minnesota Power significantly reduced its requested rate increase and is  
19 refunding more than \$12 million to customers to help alleviate pandemic-  
20 related financial concerns.<sup>22</sup>

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<sup>20</sup> <https://www.hydroone.com/about/corporate-information/rate-relief>.

<sup>21</sup> Dominion Energy wants rate increase pushed back, trying to help customers during pandemic, NBC - 2 WCBD (Charleston, South Carolina), April 2, 2020; see letter filed by Dominion with the South Carolina Public Service Commission at <https://dms.psc.sc.gov/Attachments/Matter/eb126cd9-6804-47de-8b7d-775984d8a4e5>.

<sup>22</sup> Minnesota Power Proposes Plan to Resolve Rate Request in Response to Economic Challenges of COVID-19; Customers will receive refund on bills and lower rates under proposal to state regulators, Business Wire, April 23, 2020.



- 1 • California Water Service Co. is eliminating all scheduled rate increases  
2 during 2020.<sup>23</sup>
- 3 • Chelan County (Washington) Public Utility District is postponing  
4 previously approved increases in electric, water, and wastewater rates by  
5 six months to provide customers some relief during the pandemic.<sup>24</sup>
- 6 • The City of Austin (Texas) reduced its electricity rates by about 4%,  
7 eliminated the residential price increment for usage in excess of 1,000  
8 kilowatt-hours per month, and reduced rates for residential water and  
9 wastewater consumption by 10%.<sup>25</sup>
- 10 • PEPCO, the electric utility serving the District of Columbia and  
11 surrounding areas, announced on June 1<sup>st</sup> that it would forego a \$25  
12 million rate increase scheduled for this year in D.C., make a shareholder  
13 donation to its low-income assistance fund, and take other actions to assist  
14 customers during the pandemic.<sup>26</sup>
- 15 • A report by Moody’s Investors Service expects similar delays in numerous  
16 electric, gas, and water utility rate proceedings throughout the U.S. as a  
17 way of providing some relief to consumers during the pandemic.<sup>27</sup>
- 18 • Most recently, Philadelphia Water Department withdrew its pending  
19 request for increases in water, wastewater, and stormwater rates that  
20 would have become effective in September 2020 and September 2021. In  
21 a June 2020 filing, the utility cited “the on-going pandemic and the  
22 uncertainty over the anticipated duration of continuing emergency  
23 measures.”<sup>28</sup>

24 Q. What do you recommend?

25 A. I recommend that the Commission deny Columbia’s request to increase rates in this case.

26 Now is not the time to impose additional, unavoidable costs on consumers. Residential

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<sup>23</sup> Utility; Cal Water requests a delay in rate changes, Oroville Mercury Register (California), April 30, 2020.

<sup>24</sup> Chelan PUD delays rate increase by 6 months, S&P Global Market Intelligence, <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/chelan-pud-delays-rate-increase-by-6-months-58041707>.

<sup>25</sup> <https://austinenergy.com/ae/rates/residential-rates/residential-electric-rates-and-line-items>.

<sup>26</sup> PEPCO press release, PEPCO Proposes to Freeze DC Customer Energy Delivery Rates Until 2022, <https://www.pepco.com/News/Pages/PepcoProposestoFreezeDCCustomerEnergyDeliveryRatesUntil2022andAssistCustomerswithPandemicEconomicRecovery.aspx>.

<sup>27</sup> Moody’s Investors Service, Coronavirus outbreak delays rate cases, but regulatory support remains intact, April 6, 2020, [https://www.eenews.net/assets/2020/04/09/document\\_ew\\_04.pdf](https://www.eenews.net/assets/2020/04/09/document_ew_04.pdf).

<sup>28</sup> <https://www.phila.gov/departments/water-sewer-storm-water-rate-board/rate-proceedings/2020-rate-proceeding/>.

1 customers are experiencing unprecedented levels of unemployment and other economic  
2 dislocation (such as reduced hours of work), while many are battling the COVID-19  
3 infection. Businesses of all sizes, as well as local governments, schools, universities, and  
4 nonprofit organizations are struggling to remain viable. I expect many will not be able to  
5 survive or, if they do, it might take them months or years to return to pre-pandemic levels  
6 of operations.

7 To put all of this in terms of utility ratemaking: it would be neither just nor  
8 reasonable for Columbia to increase its rates at this time. The Commission should deny  
9 Columbia's request in its entirety and keep Columbia's existing rates (and all other tariff  
10 provisions) in effect.

11 Q. Other than the information you provided above, is there any other information that lends  
12 support to your recommendation?

13 A. Yes. Columbia's filing is based on data for the utility under normal conditions. In the  
14 pro forma historic test year (twelve months ending November 30, 2019), under its  
15 existing rates, Columbia had net income of \$131.9 million.<sup>29</sup> By my estimation, this was  
16 equivalent to a return on common equity of approximately 9.4%.<sup>30</sup>

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<sup>29</sup> Columbia Exh. 2, Sch. 2.

<sup>30</sup> According to Columbia Exh. 2, Sch. 2, its overall rate of return for the pro forma historic test year was 7.13%. Using the Company's proposed capital structure for the FPFTY (Columbia St. 8, p. 2), this would have resulted in a return on equity of approximately 9.37%, calculated as follows: overall return of 7.13% - 2.05% weighted cost of debt = 5.24% weighted return on equity.  $5.08\% \div 54.19\%$  equity capitalization = 9.374% return on equity.

1 Q. How does your recommendation compare to the recommendation developed by the  
2 OCA's other experts, assuming we were not in the midst of a pandemic?

3 A. Those witnesses' testimonies and exhibits will speak for themselves, but I can provide  
4 my basic understanding of their in-depth analyses of Columbia's operations. As I  
5 understand it, the OCA's experts have concluded that Columbia has overstated the need  
6 for an increase in revenues in the FPFTY. I also would note that this assumes none of  
7 Columbia's costs or revenues are affected by the pandemic or the ongoing economic  
8 fallout from the past few months.

9 I would emphasize that we are not living under normal conditions. Businesses,  
10 small and large, throughout Pennsylvania are facing the very real prospect of not being  
11 able to pay their out-of-pocket expenses and laying off most or all of their workforce.  
12 They are facing negative returns on their investments. That is the real-world competitive  
13 market that regulation is trying to mirror.

14 I am not suggesting that Columbia should have rates that are inadequate to ensure  
15 the provision of safe and reliable service to its customers. My recommendation allows  
16 Columbia to continue operations, recover all of its expenses, and earn a profit. Most of  
17 Columbia's customers would be absolutely thrilled if they could pay all their bills  
18 (including various increases in expenses that may or may not occur next year), make all  
19 of their debt payments, and still have enough left over to earn a profit on their equity  
20 investment. Most businesses would find that result absolutely amazing at this time.  
21 When compared to the economic devastation gripping its service territory, I cannot find  
22 anything just or reasonable about increasing Columbia's rates at this time.

1           Moreover, it is my opinion that the Commission cannot lend any credence to  
2           Columbia's projections for the FPFTY. That applies to essentially every aspect of  
3           Columbia's projections. Since Columbia prepared this case, interest rates have dropped  
4           to near zero;<sup>31</sup> oil prices have plunged;<sup>32</sup> and inflation is negative.<sup>33</sup> No one can say how  
5           much gas Columbia will sell and to which customer classes. How many restaurants will  
6           be open? How many children will be in school remotely this fall? How many colleges  
7           and universities will be able to open their classrooms and dormitories next semester?

8           Based on all of these factors, I conclude that the Commission cannot have any  
9           confidence in the projections made by Columbia for the FPFTY; there is simply too much  
10          uncertainty. It would be neither just nor reasonable to set rates based on the assumptions  
11          Columbia made when it filed this case in late April. Virtually every assumption is  
12          changing as a result of the pandemic. As a consequence, it is my opinion that it is  
13          reasonable -- I would go so far as to say required -- for the Commission to reject  
14          Columbia's request to increase its rates. The Commission cannot have any certainty  
15          about the appropriate, ongoing level of expenses, interest rates, consumption patterns,  
16          and the numerous other factors that affect the determination of an appropriate level of  
17          rates.

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<sup>31</sup> Board of Governors of the Federal Reserve System, Policy Tools (interest rates were decreased to the range of 0% to 0.25% on March 16, 2020), <https://www.federalreserve.gov/monetarypolicy/openmarket.htm>.

<sup>32</sup> U.S. Department of Energy, Energy Information Administration, Petroleum and Other Liquids (the price of a standard crude oil contract fell from \$53.14 on January 27 to \$40.81 on July 20), <https://www.eia.gov/dnav/pet/hist/RCLC1D.htm>.

<sup>33</sup> U.S. Bureau of Labor Statistics, Consumer Price Index (the CPI fell 0.4% in March, 0.8% in April, and another 0.1% in May), [https://data.bls.gov/timeseries/CUSR0000SA0&output\\_view=pct\\_1mth](https://data.bls.gov/timeseries/CUSR0000SA0&output_view=pct_1mth). The consumer price level in May (255.768) was lower than it was in July 2019 (256.087) -- the pandemic erased almost a full year of inflation. Inflation increased by 0.6% in June to a CPI of 257.214, which is approximately equal to the price level in October 2019 (257.229).

1 Q. If the economic situation worsens significantly and cash flow becomes a concern for  
2 Columbia, are there other actions it could take?

3 A. Yes, one obvious way to preserve cash is to defer construction projects that are not  
4 needed to ensure the current provision of safe and reliable service to existing customers.  
5 For example, growth-related projects or system rehabilitation activities that are longer-  
6 term in nature (that is, projects that are not needed to ensure current levels of service  
7 within the next six to 12 months) could be delayed by several months to preserve cash, if  
8 necessary.

9 **Introduction of OCA's Other Witnesses**

10 Q. If the Commission disagrees with you and decides to determine Columbia's revenue  
11 requirement and rates as if we were not in the midst of a pandemic, what do you  
12 recommend?

13 A. The OCA is sponsoring the testimony of four other witnesses who will provide a more  
14 traditional rate case presentation.

15 Q. Who are the OCA's other expert witnesses?

16 A. In OCA Statement 2, David Effron calculates the Company's rate base, pro forma  
17 operating income under present rates, and overall revenue deficiency of the Company  
18 based on his recommended adjustments. Mr. Effron also discusses the reasons why  
19 Columbia cannot meet its burden of proving the reasonableness of its FPFTY projections  
20 in light of all of the changes caused by the pandemic.

21 In developing his recommendations, Mr. Effron relies on the rate of return  
22 analysis presented by Kevin O'Donnell in OCA Statement 3. Mr. O'Donnell also

1 discusses some of the pandemic's effects on capital markets and the uncertainties created  
2 when attempting to determine the fair rate of return for the FPFTY.

3 In OCA Statement 4, Jerome Mierzwa discusses the Company's cost-of-service  
4 study, allocation of any rate increase among the customer classes, and issues associated  
5 with the design of residential rates.

6 Finally, in OCA Statement 5, Roger Colton addresses the effectiveness of  
7 Columbia's current CAP program as well as the particular plight of Columbia's low-  
8 income customers during this time. He recommends changes in the Company's  
9 universal-service programs, and related matters to help all of Columbia's residential  
10 customers afford essential utility service.

### 11 **Conclusion**

12 Q. Please summarize your conclusions and recommendations.

13 A. I strongly recommend that the Commission deny any rate increase to Columbia in this  
14 case. Columbia's projections for the FPFTY cannot be relied upon to make reasonable  
15 findings or conclusions about its level of revenues, expenses, or any of the other elements  
16 that enter into the ratemaking calculus.

17 Moreover, given the current economic situation, I conclude that it is neither just  
18 nor reasonable to increase rates to Columbia's customers at this time. Unemployment  
19 rates are skyrocketing in Columbia's service territory, businesses are closed or  
20 conducting limited operations, schools and universities have closed their campuses with  
21 no definite path for reopening, nonprofit organizations are stressed to the breaking point,  
22 and local government tax revenues are declining. I cannot identify any segment of

1 Columbia's customer base for which a rate increase would be just or reasonable at this  
2 time. Finally, as I explained above, Columbia would not suffer severe financial hardship  
3 if rates remained at their current level through the FPFTY.

4 Q. Does this conclude your direct testimony?

5 A. Yes, it does.

## Appendix A

**Scott J. Rubin**

Attorney + Consultant

333 Oak Lane • Bloomsburg, PA 17815

### **Current Position**

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Public Utility Attorney and Consultant. 1994 to present. I provide legal, consulting, and expert witness services to various organizations interested in the regulation of public utilities.

### **Previous Positions**

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Lecturer in Computer Science, Susquehanna University, Selinsgrove, PA. 1993 to 2000.

Senior Assistant Consumer Advocate, Office of Consumer Advocate, Harrisburg, PA. 1990 to 1994.

I supervised the administrative and technical staff and shared with one other senior attorney the supervision of a legal staff of 14 attorneys.

Assistant Consumer Advocate, Office of Consumer Advocate, Harrisburg, PA. 1983 to 1990.

Associate, Laws and Staruch, Harrisburg, PA. 1981 to 1983.

Law Clerk, U.S. Environmental Protection Agency, Washington, DC. 1980 to 1981.

Research Assistant, Rockville Consulting Group, Washington, DC. 1979.

### **Current Professional Activities**

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Member, American Bar Association, Infrastructure and Regulated Industries Section.

Member, American Water Works Association.

Admitted to practice law before the Supreme Court of Pennsylvania, the New York State Court of Appeals, the United States District Court for the Middle District of Pennsylvania, the United States Court of Appeals for the Third Circuit, and the Supreme Court of the United States.

Served as peer reviewer for *Electricity Journal*, *Journal American Water Works Association*, *Journal of Benefit-Cost Analysis*, and *Utilities Policy*.

### **Previous Professional Activities**

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Member, American Water Works Association, Rates and Charges Subcommittee, 1998-2001.

Member, Federal Advisory Committee on Disinfectants and Disinfection By-Products in Drinking Water, U.S. Environmental Protection Agency, Washington, DC. 1992 to 1994.

Chair, Water Committee, National Association of State Utility Consumer Advocates, Washington, DC. 1990 to 1994; member of committee from 1988 to 1990.

Member, Board of Directors, Pennsylvania Energy Development Authority, Harrisburg, PA. 1990 to 1994.

Member, Small Water Systems Advisory Committee, Pennsylvania Department of Environmental Resources, Harrisburg, PA. 1990 to 1992.



Member, Ad Hoc Committee on Emissions Control and Acid Rain Compliance, National Association of State Utility Consumer Advocates, 1991.

Member, Nitrogen Oxides Subcommittee of the Acid Rain Advisory Committee, U.S. Environmental Protection Agency, Washington DC. 1991.

### **Education**

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J.D. with Honors, George Washington University, Washington, DC. 1981.

B.A. with Distinction in Political Science, Pennsylvania State University, University Park, PA. 1978.

### **Publications and Presentations (\* denotes peer-reviewed publications)**

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1. "Quality of Service Issues," a speech to the Pennsylvania Public Utility Commission Consumer Conference, State College, PA. 1988.
2. K.L. Pape and S.J. Rubin, "Current Developments in Water Utility Law," in *Pennsylvania Public Utility Law* (Pennsylvania Bar Institute). 1990.
3. Presentation on Water Utility Holding Companies to the Annual Meeting of the National Association of State Utility Consumer Advocates, Orlando, FL. 1990.
4. "How the OCA Approaches Quality of Service Issues," a speech to the Pennsylvania Chapter of the National Association of Water Companies. 1991.
5. Presentation on the Safe Drinking Water Act to the Mid-Year Meeting of the National Association of State Utility Consumer Advocates, Seattle, WA. 1991.
6. "A Consumer Advocate's View of Federal Pre-emption in Electric Utility Cases," a speech to the Pennsylvania Public Utility Commission Electricity Conference. 1991.
7. Workshop on Safe Drinking Water Act Compliance Issues at the Mid-Year Meeting of the National Association of State Utility Consumer Advocates, Washington, DC. 1992.
8. Formal Discussant, Regional Acid Rain Workshop, U.S. Environmental Protection Agency and National Regulatory Research Institute, Charlotte, NC. 1992.
9. S.J. Rubin and S.P. O'Neal, "A Quantitative Assessment of the Viability of Small Water Systems in Pennsylvania," *Proceedings of the Eighth NARUC Biennial Regulatory Information Conference*, National Regulatory Research Institute (Columbus, OH 1992), IV:79-97.
10. "The OCA's Concerns About Drinking Water," a speech to the Pennsylvania Public Utility Commission Water Conference. 1992.
11. Member, Technical Horizons Panel, Annual Meeting of the National Association of Water Companies, Hilton Head, SC. 1992.
12. M.D. Klein and S.J. Rubin, "Water and Sewer -- Update on Clean Streams, Safe Drinking Water, Waste Disposal and Pennvest," *Pennsylvania Public Utility Law Conference* (Pennsylvania Bar Institute). 1992.

13. Presentation on Small Water System Viability to the Technical Assistance Center for Small Water Companies, Pa. Department of Environmental Resources, Harrisburg, PA. 1993
14. "The Results Through a Public Service Commission Lens," speaker and participant in panel discussion at Symposium: "Impact of EPA's Allowance Auction," Washington, DC, sponsored by AER\*X. 1993.
15. "The Hottest Legislative Issue of Today -- Reauthorization of the Safe Drinking Water Act," speaker and participant in panel discussion at the Annual Conference of the American Water Works Association, San Antonio, TX. 1993.
16. "Water Service in the Year 2000," a speech to the Conference: "Utilities and Public Policy III: The Challenges of Change," sponsored by the Pennsylvania Public Utility Commission and the Pennsylvania State University, University Park, PA. 1993.
17. "Government Regulation of the Drinking Water Supply: Is it Properly Focused?," speaker and participant in panel discussion at the National Consumers League's Forum on Drinking Water Safety and Quality, Washington, DC. 1993. Reprinted in *Rural Water*, Vol. 15 No. 1 (Spring 1994), pages 13-16.
18. "Telephone Penetration Rates for Renters in Pennsylvania," a study prepared for the Pennsylvania Office of Consumer Advocate. 1993.
19. "Zealous Advocacy, Ethical Limitations and Considerations," participant in panel discussion at "Continuing Legal Education in Ethics for Pennsylvania Lawyers," sponsored by the Office of General Counsel, Commonwealth of Pennsylvania, State College, PA. 1993.
20. "Serving the Customer," participant in panel discussion at the Annual Conference of the National Association of Water Companies, Williamsburg, VA. 1993.
21. "A Simple, Inexpensive, Quantitative Method to Assess the Viability of Small Water Systems," a speech to the Water Supply Symposium, New York Section of the American Water Works Association, Syracuse, NY. 1993.
22. \* S.J. Rubin, "Are Water Rates Becoming Unaffordable?," *Journal American Water Works Association*, Vol. 86, No. 2 (February 1994), pages 79-86.
23. "Why Water Rates Will Double (If We're Lucky): Federal Drinking Water Policy and Its Effect on New England," a briefing for the New England Conference of Public Utilities Commissioners, Andover, MA. 1994.
24. "Are Water Rates Becoming Unaffordable?," a speech to the Legislative and Regulatory Conference, Association of Metropolitan Water Agencies, Washington, DC. 1994.
25. "Relationships: Drinking Water, Health, Risk and Affordability," speaker and participant in panel discussion at the Annual Meeting of the Southeastern Association of Regulatory Commissioners, Charleston, SC. 1994.
26. "Small System Viability: Assessment Methods and Implementation Issues," speaker and participant in panel discussion at the Annual Conference of the American Water Works Association, New York, NY. 1994.

27. S.J. Rubin, "How much should we spend to save a life?," *Seattle Journal of Commerce*, August 18, 1994 (Protecting the Environment Supplement), pages B-4 to B-5.
28. S. Rubin, S. Bernow, M. Fulmer, J. Goldstein, and I. Peters, *An Evaluation of Kentucky-American Water Company's Long-Range Planning*, prepared for the Utility and Rate Intervention Division, Kentucky Office of the Attorney General (Tellus Institute 1994).
29. S.J. Rubin, "Small System Monitoring: What Does It Mean?," *Impacts of Monitoring for Phase II/V Drinking Water Regulations on Rural and Small Communities* (National Rural Water Association 1994), pages 6-12.
30. "Surviving the Safe Drinking Water Act," speaker at the Annual Meeting of the National Association of State Utility Consumer Advocates, Reno, NV. 1994.
31. "Safe Drinking Water Act Compliance -- Ratemaking Implications," speaker at the National Conference of Regulatory Attorneys, Scottsdale, AZ. 1995. Reprinted in *Water*, Vol. 36, No. 2 (Summer 1995), pages 28-29.
32. S.J. Rubin, "Water: Why Isn't it Free? The Case of Small Utilities in Pennsylvania," *Utilities, Consumers & Public Policy: Issues of Quality, Affordability, and Competition, Proceedings of the Fourth Utilities, Consumers and Public Policy Conference* (Pennsylvania State University 1995), pages 177-183.
33. S.J. Rubin, "Water Rates: An Affordable Housing Issue?," *Home Energy*, Vol. 12 No. 4 (July/August 1995), page 37.
34. Speaker and participant in the Water Policy Forum, sponsored by the National Association of Water Companies, Naples, FL. 1995.
35. Participant in panel discussion on "The Efficient and Effective Maintenance and Delivery of Potable Water at Affordable Rates to the People of New Jersey," at The New Advocacy: Protecting Consumers in the Emerging Era of Utility Competition, a conference sponsored by the New Jersey Division of the Ratepayer Advocate, Newark, NJ. 1995.
36. J.E. Cromwell III, and S.J. Rubin, *Development of Benchmark Measures for Viability Assessment* (Pa. Department of Environmental Protection 1995).
37. S. Rubin, "A Nationwide Practice from a Small Town in Pa.," *Lawyers & the Internet – a Supplement to the Legal Intelligencer and Pa. Law Weekly* (February 12, 1996), page S6.
38. "Changing Customers' Expectations in the Water Industry," speaker at the Mid-America Regulatory Commissioners Conference, Chicago, IL. 1996, reprinted in *Water* Vol. 37 No. 3 (Winter 1997), pages 12-14.
39. "Recent Federal Legislation Affecting Drinking Water Utilities," speaker at Pennsylvania Public Utility Law Conference, Pennsylvania Bar Institute, Hershey, PA. 1996.
40. "Clean Water at Affordable Rates: A Ratepayers Conference," moderator at symposium sponsored by the New Jersey Division of Ratepayer Advocate, Trenton, NJ. 1996.

41. "Water Workshop: How New Laws Will Affect the Economic Regulation of the Water Industry," speaker at the Annual Meeting of the National Association of State Utility Consumer Advocates, San Francisco, CA. 1996.
42. \* E.T. Castillo, S.J. Rubin, S.K. Keefe, and R.S. Raucher, "Restructuring Small Systems," *Journal American Water Works Association*, Vol. 89, No. 1 (January 1997), pages 65-74.
43. \* J.E. Cromwell III, S.J. Rubin, F.C. Marrocco, and M.E. Leevan, "Business Planning for Small System Capacity Development," *Journal American Water Works Association*, Vol. 89, No. 1 (January 1997), pages 47-57.
44. "Capacity Development – More than Viability Under a New Name," speaker at National Association of Regulatory Utility Commissioners Winter Meetings, Washington, DC. 1997.
45. \* E. Castillo, S.K. Keefe, R.S. Raucher, and S.J. Rubin, *Small System Restructuring to Facilitate SDWA Compliance: An Analysis of Potential Feasibility* (AWWA Research Foundation, 1997).
46. H. Himmelberger, *et al.*, *Capacity Development Strategy Report for the Texas Natural Resource Conservation Commission* (Aug. 1997).
47. Briefing on Issues Affecting the Water Utility Industry, Annual Meeting of the National Association of State Utility Consumer Advocates, Boston, MA. 1997.
48. "Capacity Development in the Water Industry," speaker at the Annual Meeting of the National Association of Regulatory Utility Commissioners, Boston, MA. 1997.
49. "The Ticking Bomb: Competitive Electric Metering, Billing, and Collection," speaker at the Annual Meeting of the National Association of State Utility Consumer Advocates, Boston, MA. 1997.
50. Scott J. Rubin, "A Nationwide Look at the Affordability of Water Service," *Proceedings of the 1998 Annual Conference of the American Water Works Association*, Water Research, Vol. C, No. 3, pages 113-129 (American Water Works Association, 1998).
51. Scott J. Rubin, "30 Technology Tips in 30 Minutes," *Pennsylvania Public Utility Law Conference*, Vol. I, pages 101-110 (Pa. Bar Institute, 1998).
52. Scott J. Rubin, "Effects of Electric and Gas Deregulation on the Water Industry," *Pennsylvania Public Utility Law Conference*, Vol. I, pages 139-146 (Pa. Bar Institute, 1998).
53. Scott J. Rubin, *The Challenges and Changing Mission of Utility Consumer Advocates* (American Association of Retired Persons, 1999).
54. "Consumer Advocacy for the Future," speaker at the Age of Awareness Conference, Changes and Choices: Utilities in the New Millennium, Carlisle, PA. 1999.
55. Keynote Address, \$1 Energy Fund, Inc., Annual Membership Meeting, Monroeville, PA. 1999.

56. Scott J. Rubin, "Assessing the Effect of the Proposed Radon Rule on the Affordability of Water Service," prepared for the American Water Works Association. 1999.
57. Scott J. Rubin and Janice A. Beecher, The Impacts of Electric Restructuring on the Water and Wastewater Industry, *Proceedings of the Small Drinking Water and Wastewater Systems International Symposium and Technology Expo* (Phoenix, AZ 2000), pp. 66-75.
58. American Water Works Association, *Principles of Water Rates, Fees, and Charges, Manual M1 – Fifth Edition* (AWWA 2000), Member, Editorial Committee.
59. Janice A. Beecher and Scott J. Rubin, presentation on "Special Topics in Rate Design: Affordability" at the Annual Conference and Exhibition of the American Water Works Association, Denver, CO. 2000.
60. Scott J. Rubin, "The Future of Drinking Water Regulation," a speech at the Annual Conference and Exhibition of the American Water Works Association, Denver, CO. 2000.
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10. *The Petition on Behalf of Gordon's Corner Water Company for an Increase in Rates*, New Jersey Board of Public Utilities, Docket No. WR94020037. 1994. Concerning revenue requirements and rate design, on behalf of the New Jersey Division of Ratepayer Advocate.
11. *Re Consumers Maine Water Company Request for Approval of Contracts with Consumers Water Company and with Ohio Water Service Company*, Me. Public Utilities Commission, Docket No. 94-352. 1994. Concerning affiliated interest agreements, on behalf of the Maine Public Advocate.
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15. *Winter Harbor Water Company, Proposed Schedule Revisions to Introduce a Readiness-to-Serve Charge*, Maine Public Utilities Commission, Docket No. 95-271. 1995 and 1996. Concerning standards for, and the reasonableness of, imposing a readiness to serve charge and/or exit fee on the customers of a small investor-owned water utility, on behalf of the Maine Public Advocate.
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25. *Bangor Hydro-Electric Company Petition for Temporary Rate Increase*, Maine Public Utilities Commission, Docket No. 97-201. 1997. Concerning the reasonableness of granting an electric utility's request for emergency rate relief, and related issues, on behalf of the Maine Public Advocate.
26. *Testimony concerning H.B. 1068 Relating to Restructuring of the Natural Gas Utility Industry*, Consumer Affairs Committee, Pennsylvania House of Representatives. 1997. Concerning the provisions of proposed legislation to restructure the natural gas utility industry in Pennsylvania, on behalf of the Pennsylvania AFL-CIO Gas Utility Caucus.
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32. *Olde Port Mariner Fleet, Inc. Complaint Regarding Casco Bay Island Transit District's Tour and Charter Service*, Maine Public Utilities Commission, Docket No. 98-161. 1998. Concerning the standards and requirements for allocating costs and separating operations between regulated and unregulated operations of a transportation utility, on behalf of the Maine Public Advocate and Olde Port Mariner Fleet, Inc.
33. *Central Maine Power Company Investigation of Stranded Costs, Transmission and Distribution Utility Revenue Requirements, and Rate Design*, Maine Public Utilities Commission, Docket No. 97-580. 1998. Concerning the treatment of existing rate discounts when designing rates for a transmission and distribution electric utility, on behalf of the Maine Public Advocate.
34. *Pa. Public Utility Commission v. Manufacturers Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00984275. 1998. Concerning rate design on behalf of the Manufacturers Water Industrial Users.
35. *In the Matter of Petition of Pennsgrove Water Supply Company for an Increase in Rates for Water Service*, New Jersey Board of Public Utilities, Docket No. WR98030147. 1998. Concerning the revenue requirements, level of affiliated charges, and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
36. *In the Matter of Petition of Seaview Water Company for an Increase in Rates for Water Service*, New Jersey Board of Public Utilities, Docket No. WR98040193. 1999. Concerning the revenue requirements and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
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38. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Dayton Power and Light Company and Related Matters*, Public Utilities Commission of Ohio, Case No. 98-105-EL-EFC. 1999. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.

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43. *In the Matter of the Petition of Gordon's Corner Water Company for an Increase in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR00050304. 2000. Concerning the revenue requirements and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
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48. *Joint Application of Pennsylvania-American Water Company and Thames Water Aqua Holdings GmbH*, Pennsylvania Public Utility Commission, Docket Nos. A-212285F0096 and A-230073F0004. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the Pennsylvania Office of Consumer Advocate.
49. *Application for Approval of the Transfer of Control of Kentucky-American Water Company to RWE AG and Thames Water Aqua Holdings GmbH*, Kentucky Public Service Commission, Case No. 2002-00018. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the Kentucky Office of Attorney General.

50. *Joint Petition for the Consent and Approval of the Acquisition of the Outstanding Common Stock of American Water Works Company, Inc., the Parent Company and Controlling Shareholder of West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 01-1691-W-PC. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the Consumer Advocate Division of the West Virginia Public Service Commission.
51. *Joint Petition of New Jersey-American Water Company, Inc. and Thames Water Aqua Holdings GmbH for Approval of Change in Control of New Jersey-American Water Company, Inc.*, New Jersey Board of Public Utilities, Docket No. WM01120833. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
52. *Illinois-American Water Company, Proposed General Increase in Water Rates*, Illinois Commerce Commission, Docket No. 02-0690. 2003. Concerning rate design and cost of service issues, on behalf of the Illinois Office of the Attorney General.
53. *Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00038304. 2003. Concerning rate design and cost of service issues, on behalf of the Pennsylvania Office of Consumer Advocate.
54. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 03-0353-W-42T. 2003. Concerning affordability, rate design, and cost of service issues, on behalf of the West Virginia Consumer Advocate Division.
55. *Petition of Seabrook Water Corp. for an Increase in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR3010054. 2003. Concerning revenue requirements, rate design, prudence, and regulatory policy, on behalf of the New Jersey Division of Ratepayer Advocate.
56. *Chesapeake Ranch Water Co. v. Board of Commissioners of Calvert County*, U.S. District Court for Southern District of Maryland, Civil Action No. 8:03-cv-02527-AW. 2004. Submitted expert report concerning the expected level of rates under various options for serving new commercial development, on behalf of the plaintiff.
57. *Testimony concerning Lead in Drinking Water*, Committee on Government Reform, United States House of Representatives. 2004. Concerning the trade-offs faced by low-income households when drinking water costs increase, including an analysis of H.R. 4268.
58. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 04-0373-W-42T. 2004. Concerning affordability and rate comparisons, on behalf of the West Virginia Consumer Advocate Division.
59. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 04-0358-W-PC. 2004. Concerning costs, benefits, and risks associated with a wholesale water sales contract, on behalf of the West Virginia Consumer Advocate Division.
60. *Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2004-00103. 2004. Concerning rate design and tariff issues, on behalf of the Kentucky Office of Attorney General.

61. *New Landing Utility, Inc.*, Illinois Commerce Commission, Docket No. 04-0610. 2005. Concerning the adequacy of service provided by, and standards of performance for, a water and wastewater utility, on behalf of the Illinois Office of Attorney General.
62. *People of the State of Illinois v. New Landing Utility, Inc.*, Circuit Court of the 15<sup>th</sup> Judicial District, Ogle County, Illinois, No. 00-CH-97. 2005. Concerning the standards of performance for a water and wastewater utility, including whether a receiver should be appointed to manage the utility's operations, on behalf of the Illinois Office of Attorney General.
63. *Hope Gas, Inc. d/b/a Dominion Hope*, West Virginia Public Service Commission, Case No. 05-0304-G-42T. 2005. Concerning the utility's relationships with affiliated companies, including an appropriate level of revenues and expenses associated with services provided to and received from affiliates, on behalf of the West Virginia Consumer Advocate Division.
64. *Monongahela Power Co. and The Potomac Edison Co.*, West Virginia Public Service Commission, Case Nos. 05-0402-E-CN and 05-0750-E-PC. 2005. Concerning review of a plan to finance the construction of pollution control facilities and related issues, on behalf of the West Virginia Consumer Advocate Division.
65. *Joint Application of Duke Energy Corp., et al., for Approval of a Transfer and Acquisition of Control*, Case Kentucky Public Service Commission, No. 2005-00228. 2005. Concerning the risks and benefits associated with the proposed acquisition of an energy utility, on behalf of the Kentucky Office of the Attorney General.
66. *Commonwealth Edison Company proposed general revision of rates, restructuring and price unbundling of bundled service rates, and revision of other terms and conditions of service*, Illinois Commerce Commission, Docket No. 05-0597. 2005. Concerning rate design and cost of service, on behalf of the Illinois Office of Attorney General.
67. *Pennsylvania Public Utility Commission v. Aqua Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-00051030. 2006. Concerning rate design and cost of service, on behalf of the Pennsylvania Office of Consumer Advocate.
68. *Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a AmerenIP, proposed general increases in rates for delivery service*, Illinois Commerce Commission, Docket Nos. 06-0070, et al. 2006. Concerning rate design and cost of service, on behalf of the Illinois Office of Attorney General.
69. *Grens, et al., v. Illinois-American Water Co.*, Illinois Commerce Commission, Docket Nos. 5-0681, et al. 2006. Concerning utility billing, metering, meter reading, and customer service practices, on behalf of the Illinois Office of Attorney General and the Village of Homer Glen, Illinois.
70. *Commonwealth Edison Company Petition for Approval of Tariffs Implementing ComEd's Proposed Residential Rate Stabilization Program*, Illinois Commerce Commission, Docket No. 06-0411. 2006. Concerning a utility's proposed purchased power phase-in proposal, in behalf of the Illinois Office of Attorney General.
71. *Illinois-American Water Company, Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges Pursuant to 83 Ill. Adm. Code 655*, Illinois Commerce

- Commission, Docket No. 06-0196. 2006. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General and the Village of Homer Glen, Illinois.
72. *Illinois-American Water Company, et al.*, Illinois Commerce Commission, Docket No. 06-0336. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Illinois Office of Attorney General.
73. *Joint Petition of Kentucky-American Water Company, et al.*, Kentucky Public Service Commission, Docket No. 2006-00197. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Kentucky Office of Attorney General.
74. *Aqua Illinois, Inc. Proposed Increase in Water Rates for the Kankakee Division*, Illinois Commerce Commission, Docket No. 06-0285. 2006. Concerning various revenue requirement, rate design, and tariff issues, on behalf of the County of Kankakee.
75. *Housing Authority for the City of Pottsville v. Schuylkill County Municipal Authority*, Court of Common Pleas of Schuylkill County, Pennsylvania, No. S-789-2000. 2006. Concerning the reasonableness and uniformity of rates charged by a municipal water authority, on behalf of the Pottsville Housing Authority.
76. *Application of Pennsylvania-American Water Company for Approval of a Change in Control*, Pennsylvania Public Utility Commission, Docket No. A-212285F0136. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Pennsylvania Office of Consumer Advocate.
77. *Application of Artesian Water Company, Inc., for an Increase in Water Rates*, Delaware Public Service Commission, Docket No. 06-158. 2006. Concerning rate design and cost of service, on behalf of the Staff of the Delaware Public Service Commission.
78. *Central Illinois Light Company, Central Illinois Public Service Company, and Illinois Power Company: Petition Requesting Approval of Deferral and Securitization of Power Costs*, Illinois Commerce Commission, Docket No. 06-0448. 2006. Concerning a utility's proposed purchased power phase-in proposal, in behalf of the Illinois Office of Attorney General.
79. *Petition of Pennsylvania-American Water Company for Approval to Implement a Tariff Supplement Revising the Distribution System Improvement Charge*, Pennsylvania Public Utility Commission, Docket No. P-00062241. 2007. Concerning the reasonableness of a water utility's proposal to increase the cap on a statutorily authorized distribution system surcharge, on behalf of the Pennsylvania Office of Consumer Advocate.
80. *Adjustment of the Rates of Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2007-00143. 2007. Concerning rate design and cost of service, on behalf of the Kentucky Office of Attorney General.
81. *Application of Kentucky-American Water Company for a Certificate of Convenience and Necessity Authorizing the Construction of Kentucky River Station II, Associated Facilities and Transmission Main*, Kentucky Public Service Commission, Case No. 2007-00134. 2007. Concerning the life-cycle costs of a planned water supply source and the imposition of conditions on the construction of that project, on behalf of the Kentucky Office of Attorney General.



82. *Pa. Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00072229. 2007. Concerning rate design and cost of service, on behalf of the Pennsylvania Office of Consumer Advocate.
83. *Illinois-American Water Company Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 07-0195. 2007. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
84. *In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates for Water Service Provided in the Lake Erie Division*, Public Utilities Commission of Ohio, Case No.07-0564-WW-AIR. 2007. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
85. *Pa. Public Utility Commission v. Aqua Pennsylvania Inc.*, Pennsylvania Public Utility Commission, Docket No. R-00072711. 2008. Concerning rate design, on behalf of the Masthope Property Owners Council.
86. *Illinois-American Water Company Proposed increase in water and sewer rates*, Illinois Commerce Commission, Docket No. 07-0507. 2008. Concerning rate design and demand studies, on behalf of the Illinois Office of Attorney General.
87. *Central Illinois Light Company, d/b/a AmerenCILCO; Central Illinois Public Service Company, d/b/a AmerenCIPS; Illinois Power Company, d/b/a AmerenIP: Proposed general increase in rates for electric delivery service*, Illinois Commerce Commission Docket Nos. 07-0585, 07-0586, 07-0587. 2008. Concerning rate design and cost of service studies, on behalf of the Illinois Office of Attorney General.
88. *Commonwealth Edison Company: Proposed general increase in electric rates*, Illinois Commerce Commission Docket No. 07-0566. 2008. Concerning rate design and cost of service studies, on behalf of the Illinois Office of Attorney General.
89. *In the Matter of Application of Ohio American Water Co. to Increase Its Rates*, Public Utilities Commission of Ohio, Case No. 07-1112-WS-AIR. 2008. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
90. *In the Matter of the Application of The East Ohio Gas Company d/b/a Dominion East Ohio for Authority to Increase Rates for its Gas Service*, Public Utilities Commission of Ohio, Case Nos. 07-829-GA-AIR, et al. 2008. Concerning the need for, and structure of, an accelerated infrastructure replacement program and rate surcharge, on behalf of the Office of the Ohio Consumers' Counsel.
91. *Pa. Public Utility Commission v. Pennsylvania American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2008-2032689. 2008. Concerning rate design, cost of service study, and other tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.
92. *Pa. Public Utility Commission v. York Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2008-2023067. 2008. Concerning rate design, cost of service study, and other tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.

93. *Northern Illinois Gas Company d/b/a Nicor Gas Company*, Illinois Commerce Commission, Docket No. 08-0363. 2008. Concerning rate design, cost of service, and automatic rate adjustments, on behalf of the Illinois Office of Attorney General.
94. *West Virginia American Water Company*, West Virginia Public Service Commission, Case No. 08-0900-W-42T. 2008. Concerning affiliated interest charges and relationships, on behalf of the Consumer Advocate Division of the Public Service Commission of West Virginia.
95. *Illinois-American Water Company Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 08-0218. 2008. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
96. *In the Matter of Application of Duke Energy Ohio, Inc. for an Increase in Electric Rates*, Public Utilities Commission of Ohio, Case No. 08-0709-EL-AIR. 2009. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
97. *The Peoples Gas Light and Coke Company and North Shore Gas Company Proposed General Increase in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 09-0166 and 09-0167. 2009. Concerning rate design and automatic rate adjustments on behalf of the Illinois Office of Attorney General, Citizens Utility Board, and City of Chicago.
98. *Illinois-American Water Company Proposed Increase in Water and Sewer Rates*, Illinois Commerce Commission, Docket No. 09-0319. 2009. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General and Citizens Utility Board.
99. *Pa. Public Utility Commission v. Aqua Pennsylvania Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2009-2132019. 2010. Concerning rate design, cost of service, and automatic adjustment tariffs, on behalf of the Pennsylvania Office of Consumer Advocate.
100. *Apple Canyon Utility Company and Lake Wildwood Utilities Corporation Proposed General Increases in Water Rates*, Illinois Commerce Commission, Docket Nos. 09-0548 and 09-0549. 2010. Concerning parent-company charges, quality of service, and other matters, on behalf of Apple Canyon Lake Property Owners' Association and Lake Wildwood Association, Inc.
101. *Application of Aquarion Water Company of Connecticut to Amend its Rate Schedules*, Connecticut Department of Public Utility Control, Docket No. 10-02-13. 2010. Concerning rate design, proof of revenues, and other tariff issues, on behalf of the Connecticut Office of Consumer Counsel.
102. *Illinois-American Water Company Annual Reconciliation of Purchased Water and Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 09-0151. 2010. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
103. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket Nos. R-2010-2166212, et al. 2010. Concerning rate design and cost of service study for four wastewater utility districts, on behalf of the Pennsylvania Office of Consumer Advocate.
104. *Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP Petition for accounting order*, Illinois Commerce

- Commission, Docket No. 10-0517. 2010. Concerning ratemaking procedures for a multi-district electric and natural gas utility, on behalf of the Illinois Office of Attorney General.
105. *Commonwealth Edison Company Petition for General Increase in Delivery Service Rates*, Illinois Commerce Commission Docket No. 10-0467. 2010. Concerning rate design and cost of service study, on behalf of the Illinois Office of Attorney General.
106. *Pa. Public Utility Commission v. City of Lancaster Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2010-2179103. 2010. Concerning rate design, cost of service, and cost allocation, on behalf of the Pennsylvania Office of Consumer Advocate.
107. *Application of Yankee Gas Services Company for Amended Rate Schedules*, Connecticut Department of Public Utility Control, Docket No. 10-12-02. 2011. Concerning rate design and cost of service for a natural gas utility, on behalf of the Connecticut Office of Consumers' Counsel.
108. *California-American Water Company*, California Public Utilities Commission, Application 10-07-007. 2011. Concerning rate design and cost of service for multiple water-utility service areas, on behalf of The Utility Reform Network.
109. *Little Washington Wastewater Company, Inc., Masthope Wastewater Division*, Pennsylvania Public Utility Commission Docket No. R-2010-2207833. 2011. Concerning rate design and various revenue requirements issues, on behalf of the Masthope Property Owners Council.
110. *In the matter of Pittsfield Aqueduct Company, Inc.*, New Hampshire Public Utilities Commission Case No. DW 10-090. 2011. Concerning rate design and cost of service on behalf of the New Hampshire Office of the Consumer Advocate.
111. *In the matters of Pennichuck Water Works, Inc. Permanent Rate Case and Petition for Approval of Special Contract with Anheuser-Busch, Inc.*, New Hampshire Public Utilities Commission Case Nos. DW 10-091 and DW 11-014. 2011. Concerning rate design, cost of service, and contract interpretation on behalf of the New Hampshire Office of the Consumer Advocate.
112. *Artesian Water Co., Inc. v. Chester Water Authority*, U.S. District Court for the Eastern District of Pennsylvania Case No. 10-CV-07453-JP. 2011. Concerning cost of service, ratemaking methods, and contract interpretation on behalf of Chester Water Authority.
113. *North Shore Gas Company and The Peoples Gas Light and Coke Company Proposed General Increases in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 11-0280 and 11-0281. 2011. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General, the Citizens Utility Board, and the City of Chicago.
114. *Ameren Illinois Company: Proposed general increase in electric delivery service rates and gas delivery service rates*, Illinois Commerce Commission, Docket Nos. 11-0279 and 11-0282. 2011. Concerning rate design and cost of service for natural gas and electric distribution service, on behalf of the Illinois Office of Attorney General and the Citizens Utility Board.
115. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2011-2232243. 2011. Concerning rate design, cost of service, sales forecast,

and automatic rate adjustments on behalf of the Pennsylvania Office of Consumer Advocate.

116. *Aqua Illinois, Inc. Proposed General Increase in Water and Sewer Rates*, Illinois Commerce Commission, Docket No. 11-0436. 2011. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General.
117. *City of Nashua Acquisition of Pennichuck Corporation*, New Hampshire Public Utilities Commission, Docket No. DW 11-026. 2011. Concerning the proposed acquisition of an investor-owned utility holding company by a municipality, including appropriate ratemaking methodologies, on behalf of the New Hampshire Office of Consumer Advocate.
118. *An Application by Heritage Gas Limited for the Approval of a Schedule of Rates, Tolls and Charges*, Nova Scotia Utility and Review Board, Case NSUARB-NG-HG-R-11. 2011. Concerning rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
119. *An Application of Halifax Regional Water Commission for Approval of a Cost of Service and Rate Design Methodology*, Nova Scotia Utility and Review Board, Case NSUARB-W-HRWC-R-11. 2011. Concerning rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
120. *National Grid USA and Liberty Energy Utilities Corp.*, New Hampshire Public Utilities Commission, Docket No. DG 11-040. 2011. Concerning the costs and benefits of a proposed merger and related conditions, on behalf of the New Hampshire Office of Consumer Advocate.
121. *Great Northern Utilities, Inc., et al.*, Illinois Commerce Commission, Docket Nos. 11-0059, et al. 2012. Concerning options for mitigating rate impacts and consolidating small water and wastewater utilities for ratemaking purposes, on behalf of the Illinois Office of Attorney General.
122. *Pa. Public Utility Commission v. Aqua Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2011-2267958. 2012. Concerning rate design, cost of service, and automatic rate adjustment mechanisms, on behalf of the Pennsylvania Office of Consumer Advocate.
123. *Golden State Water Company*, California Public Utilities Commission, Application 11-07-017. 2012. Concerning rate design and quality of service, on behalf of The Utility Reform Network.
124. *Golden Heart Utilities, Inc. and College Utilities Corporation*, Regulatory Commission of Alaska, Case Nos. U-11-77 and U-11-78. 2012. Concerning rate design and cost of service, on behalf of the Alaska Office of the Attorney General.
125. *Illinois-American Water Company*, Illinois Commerce Commission, Docket No. 11-0767. 2012. Concerning rate design, cost of service, and automatic rate adjustment mechanisms, on behalf of the Illinois Office of Attorney General.
126. *Application of Tidewater Utilities, Inc., for a General Rate Increase in Water Base Rates and Tariff Revisions*, Delaware Public Service Commission, Docket No. 11-397. 2012. Concerning rate design and cost of service study, on behalf of the Staff of the Delaware Public Service Commission.
127. *In the Matter of the Philadelphia Water Department's Proposed Increase in Rates for Water and Wastewater Utility Services*, Philadelphia Water Commissioner, FY 2013-2016. 2012. Concerning rate

design and related issues for storm water service, on behalf of Citizens for Pennsylvania's Future.

128. *Corix Utilities (Illinois) LLC, Hydro Star LLC, and Utilities Inc. Joint Application for Approval of a Proposed Reorganization*, Illinois Commerce Commission, Docket No. 12-0279. 2012. Concerning merger-related synergy savings and appropriate ratemaking treatment of the same, on behalf of the Illinois Office of Attorney General.
129. *North Shore Gas Company and The Peoples Gas Light and Coke Company*, Illinois Commerce Commission, Docket Nos. 12-0511 and 12-0512. 2012. Concerning rate design, cost of service study, and automatic rate adjustment tariff on behalf of the Illinois Office of Attorney General.
130. *Pa. Public Utility Commission v. City of Lancaster Sewer Fund*, Pennsylvania Public Utility Commission, Docket No. R-2012-2310366. 2012. Concerning rate design, cost of service, and cost allocation, on behalf of the Pennsylvania Office of Consumer Advocate.
131. *Aquarion Water Company of New Hampshire*, New Hampshire Public Utilities Commission, Docket No. DW 12-085. 2013. Concerning tariff issues, including an automatic adjustment clause for infrastructure improvement, on behalf of the New Hampshire Office of Consumer Advocate.
132. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates*, Public Utilities Commission of Ohio, Case No. 12-1682-EL-AIR, et al. 2013. Concerning rate design and tariff issues, on behalf of the Office of the Ohio Consumers' Counsel.
133. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Natural Gas Distribution Rates*, Public Utilities Commission of Ohio, Case No. 12-1685-GA-AIR, et al. 2013. Concerning cost-of-service study, rate design, and tariff issues, on behalf of the Office of the Ohio Consumers' Counsel.
134. *In the Matter of the Application of The Dayton Power and Light Company to Establish a Standard Service Offer in the Form of an Electric Security Plan*, Public Utilities Commission of Ohio, Case No. 12-426-EL-SSO, et al. 2013. Concerning rate design, on behalf of the Office of the Ohio Consumers' Counsel.
135. *Application of the Halifax Regional Water Commission, for Approval of Amendments to its Schedule of Rates and Charges and Schedule of Rules and Regulations for the delivery of water, public and private fire protection, wastewater and stormwater services*, Nova Scotia Utility and Review Board, Matter No. M05463. 2013. Concerning rate design, cost-of-service study, and miscellaneous tariff provisions, on behalf of the Consumer Advocate of Nova Scotia.
136. *California Water Service Co. General Rate Case Application*, California Public Utilities Commission, Docket No. A.12-07-007. 2013. Concerning rate design, phase-in plans, low-income programs, and other tariff issues, on behalf of The Utility Reform Network.
137. *Application of The United Illuminating Company to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority, Docket No. 13-01-19. 2013. Concerning sales forecast, rate design, and other tariff issues, on behalf of the Connecticut Office of Consumer Counsel.
138. *Application of Aquarion Water Company of Connecticut to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority, Docket No. 13-02-20. 2013. Concerning sales forecast and rate design on

behalf of the Connecticut Office of Consumer Counsel.

139. *Ameren Illinois Company, Proposed General Increase in Natural Gas Delivery Service Rates*, Illinois Commerce Commission, Docket No. 13-0192. 2013. Concerning rate design and revenue allocation, on behalf of the Illinois Office of Attorney General and Citizens Utility Board.
140. *Commonwealth Edison Company, Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Docket No. 13-0387. 2013. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
141. *In the Matter of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service*, District of Columbia Public Service Commission, Formal Case No. 1103. 2013. Concerning rate design, revenue allocation, and cost-of-service study issues, on behalf of the District of Columbia Office of Peoples' Counsel.
142. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2013-2355276. 2013. Concerning rate design, revenue allocation, and regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.
143. *In the Matter of the Revenue Requirement and Transmission Tariff Designated as TA364-8 filed by Chugach Electric Association, Inc.*, Regulatory Commission of Alaska, U-13-007. 2013. Concerning rate design and cost-of-service study issues, on behalf of the Alaska Office of the Attorney General.
144. *Ameren Illinois Company: Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Docket No. 13-0476. 2013. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
145. *Pa. Public Utility Commission v. City of Bethlehem Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2013-2390244. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
146. *In the Matter of the Tariff Revision Designated as TA332-121 filed by the Municipality of Anchorage d/b/a Municipal Light and Power Department*, Regulatory Commission of Alaska, U-13-184. 2014. Concerning rate design and cost-of-service study issues, on behalf of the Alaska Office of the Attorney General.
147. *Pa. Public Utility Commission v. Pike County Light and Power Co. - Gas*, Pennsylvania Public Utility Commission, Docket No. R-2013-2397353. 2014. Concerning rate design and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
148. *Pa. Public Utility Commission v. Pike County Light and Power Co. - Electric*, Pennsylvania Public Utility Commission, Docket No. R-2013-2397237. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
149. *The Peoples Gas Light and Coke Company North Shore Gas Company Proposed General Increase in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 14-0224 and 14-0225. 2014. Concerning rate design on behalf of the Illinois Office of the Attorney General and the Environmental

Law and Policy Center.

150. *Apple Valley Ranchos Water Company*, California Public Utilities Commission, Docket No. A.14-01-002. 2014. Concerning rate design and automatic rate adjustment mechanisms on behalf of the Town of Apple Valley.
151. *Application by Heritage Gas Limited for Approval to Amend its Franchise Area*, Nova Scotia Utility and Review Board, Matter No. M06271. 2014. Concerning criteria, terms, and conditions for expanding a utility's service area and using transported compressed natural gas to serve small retail customers, on behalf of the Nova Scotia Consumer Advocate.
152. *Notice of Intent of Entergy Mississippi, Inc. to Modernize Rates to Support Economic Development, Power Procurement, and Continued Investment*, Mississippi Public Service Commission Docket No. 2014-UN-132. 2014. Concerning rate design and tariff issues, on behalf of the Mississippi Public Utilities Staff.
153. *Pa. Public Utility Commission v. City of Lancaster Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2014-2418872. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
154. *Pa. Public Utility Commission v. Borough of Hanover Municipal Water Works*, Pennsylvania Public Utility Commission, Docket No. R-2014-2428304. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
155. *Investigation of Commonwealth Edison Company's Cost of Service for Low-Use Customers in Each Residential Class*, Illinois Commerce Commission, Docket No. 14-0384. 2014. Concerning rate design on behalf of the Illinois Office of Attorney General.
156. *Application of the Halifax Regional Water Commission, for Approval of its Schedule of Rates and Charges and Schedule of Rules and Regulations for the Provision of Water, Public and Private Fire Protection, Wastewater and Stormwater Services*, Nova Scotia Utility and Review Board, Matter No. M06540. 2015. Concerning rate design, cost of service study, and tariff issues on behalf of the Nova Scotia Consumer Advocate.
157. *Testimony concerning organization and regulation of Philadelphia Gas Works*, Philadelphia City Council's Special Committee on Energy Opportunities. 2015.
158. *Testimony concerning proposed telecommunications legislation*, Maine Joint Standing Committee on Energy, Utilities, and Technology. 2015.
159. *Pa. Public Utility Commission v. United Water Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2015-2462723. 2015. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
160. *Ameren Illinois Company Proposed General Increase in Gas Delivery Service Rates*, Illinois Commerce Commission, Docket No. 15-0142. 2015. Concerning rate design on behalf of the Illinois Office of Attorney General.

161. *Maine Natural Gas Company Request for Multi-Year Rate Plan*, Maine Public Utilities Commission, Docket No. 2015-00005. 2015. Concerning rate design and automatic rate adjustment tariffs on behalf of the Maine Office of the Public Advocate.
162. *Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer*, Public Utilities Commission of Ohio, Case No. 14-1297-EL-SSO. 2015. Concerning rate design and proposed rate discounts on behalf of the Office of the Ohio Consumers' Counsel.
163. *An Application of the Halifax Regional Water Commission, for approval of revisions to its Cost of Service Manual and Rate Design for Stormwater Service*, Nova Scotia Utility and Review Board, Matter No. M07147. 2016. Concerning stormwater rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
164. *In the Matter of An Application by Heritage Gas Limited for Enhancement to Its Existing Residential Retro-Fit Assistance Fund*, Nova Scotia Utility and Review Board, Matter No. M07146. 2016. Concerning costs and benefits associated with utility system expansion, on behalf of the Nova Scotia Consumer Advocate.
165. *In the Matter of the Application of UNS Electric, Inc. for the Establishment of Just and Reasonable Rates and Charges*, Arizona Corporation Commission, Docket No. E-04204A-15-0142. 2016. Concerning rate design and residential demand charges on behalf of Arizona Utility Ratepayer Alliance.
166. *In the Matter of Application of Water Service Corporation of Kentucky for a General Adjustment in Existing Rates*, Kentucky Public Service Commission, Case No. 2015-00382. 2016. Concerning rate design and service area consolidation on behalf of the Kentucky Office of the Attorney General.
167. *Massachusetts Electric Company and Nantucket Electric Company*, Massachusetts Department of Public Utilities, Docket No. DPU 15-155. 2016. Concerning rate design and cost-of-service studies on behalf of the Massachusetts Office of Attorney General.
168. *In the Matter of Abenaki Water Company*, New Hampshire Public Utilities Commission, Docket No. DW 15-199. 2016. Concerning rate design on behalf of the New Hampshire Office of the Consumer Advocate.
169. *In the Matter of an Application by Heritage Gas Limited for Approval of its Customer Retention Program*, Nova Scotia Utility and Review Board Matter No. M07346. 2016. Concerning a regulatory response to competition and potential business failure on behalf of the Nova Scotia Consumer Advocate.
170. *Joint Application of Pennsylvania-American Water Company and the Sewer Authority of the City of Scranton*, Pennsylvania Public Utility Commission Docket No. A-2016-2537209. 2016. Concerning the lawfulness, costs and benefits, and ratemaking treatment of a proposed acquisition of a combined wastewater and storm water utility on behalf of the Pennsylvania Office of Consumer Advocate.
171. *Application of The United Illuminating Company to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority Docket No. 16-06-04. 2016. Concerning rate design, cost-of-service study, and other tariff issues on behalf of the Connecticut Office of Consumer Counsel.



172. *Ameren Illinois Company Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Illinois Commerce Commission Docket No. 16-0387. 2016. Concerning rate design and cost-of-service study on behalf of the Illinois Office of the Attorney General.
173. *Unitil Energy Systems, Inc.*, New Hampshire Public Utilities Commission Docket No. 16-384. 2016. Concerning rate design and cost-of-service study on behalf of the New Hampshire Office of Consumer Advocate.
174. *Liberty Utilities (Granite State Electric) Corp.*, New Hampshire Public Utilities Commission Docket No. 16-383. 2016. Concerning rate design and cost-of-service study on behalf of the New Hampshire Office of Consumer Advocate.
175. *Arizona Public Service Co.*, Arizona Corporation Commission Docket No. E-01345A-16-0123. 2017. Concerning rate design and cost-of-service study on behalf of the Arizona Utility Ratepayer Alliance.
176. *Commonwealth Edison Company, Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Illinois Commerce Commission Docket No. 17-0049. 2017. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
177. *NSTAR Electric Company and Western Massachusetts Electric Company*, Massachusetts Department of Public Utilities Docket No. D.P.U. 17-05. 2017. Concerning rate design and cost of service study issues, on behalf of the Massachusetts Office of Attorney General.
178. *In the Matter of the Tariff Revision Designated as TA857-2 Filed by Alaska Power Company*, Regulatory Commission of Alaska No. U-16-078. 2017. Concerning rate design and cost of service study issues on behalf of the Alaska Office of the Attorney General.
179. *In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Utility Service in Minnesota*, Minnesota Public Utilities Commission Docket No. E015/GR-16-664. 2017. Concerning rate design and cost of service study issues on behalf of AARP.
180. *Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2017-2595853. 2017. Concerning rate design, cost of service, and policy issues, on behalf of the Pennsylvania Office of Consumer Advocate.
181. *Aqua Illinois, Inc. Proposed Rate Increases for Water and Sewer Services*, Illinois Commerce Commission, Docket No. 17-0259. 2017. Concerning rate design and single-tariff pricing, on behalf of the Illinois Office of Attorney General.
182. *Petition of Pennsylvania-American Water Company for Approval of Tariff Changes and Accounting and Rate Treatment Related to Replacement of Lead Customer-Owned Service Pipes*, Pennsylvania Public Utility Commission, Docket No. P-2017-2606100. 2017. Concerning public policy and ratemaking issues associated with the replacement of customer-owned lead service lines, on behalf of the Pennsylvania Office of Consumer Advocate.
183. *In the Matter of Application and Notice of Change in Natural Gas Rates of Montana-Dakota Utilities Co.*, North Dakota Public Service Commission, Case No. PU-17-295. 2017. Concerning rate design and cost

of service study issues, on behalf of AARP.

184. *Aqua Illinois, Inc. Petition for the Issuance of a Certificate of Public Convenience and Necessity to Operate a Water and Wastewater System in the Village of Peotone*, Illinois Commerce Commission, Docket No. 17-0314. 2018. Concerning rate consolidation and rate design, on behalf of the Illinois Office of Attorney General.
185. *Application of the Connecticut Light and Power Company d/b/a Eversource Energy to Amend its Rate Schedules*, Connecticut Public Utilities Regulatory Authority, Docket No. 17-10-46. 2018. Concerning rate design issues, on behalf of the Connecticut Office of Consumer Counsel.
186. *Application by Heritage Gas for Approval of a Long-Term Natural Gas Transportation Contract and Cost Recovery Mechanism*, Nova Scotia Utility and Review Board, Matter M08473. 2018. Concerning evaluation of costs, benefits, and risks of a long-term natural gas pipeline contract, on behalf of the Consumer Advocate of Nova Scotia.
187. *Boston Gas Company and Colonial Gas Company*, Massachusetts Department of Public Utilities, D.P.U. 17-170. 2018. Concerning class revenue allocation and rate design, on behalf of the Massachusetts Office of Attorney General.
188. *In the Matter of the Application of Maryland-American Water Company for Authority to Adjust its Existing Schedule of Tariffs and Rates*, Maryland Public Service Commission, Case No. 9487. 2018. Concerning cost-of-service study, on behalf of the Staff of the Maryland Public Service Commission.
189. *Joint Application and Petition of South Carolina Electric & Gas Company and Dominion Energy, Inc. for review and approval of a proposed business combination between SCANA Corporation and Dominion Energy, Inc., as may be required, and for a prudence determination regarding the abandonment of the V.C. Summer Units 2 & 3 Project and associated merger benefits and cost recovery plans*, South Carolina Public Service Commission, Docket No. 2017-370-E. 2018. Concerning regulatory policy, prudence of decision-making, and cost sharing, on behalf of AARP.
190. *Application of Transource Pennsylvania, LLC for approval of the Siting and Construction of the 230 kV Transmission Line Associated with the Independence Energy Connection - East and West Projects in portions of York and Franklin Counties, Pennsylvania*, Pennsylvania Public Utility Commission, Docket Nos. A-2017-2640195, et al. 2018. Concerning regulatory policy and benefit-cost analysis for a proposed high-voltage electric transmission line, on behalf of the Pennsylvania Office of Consumer Advocate.
191. *Pa. Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Pennsylvania Public Utility Commission, Docket Nos. R-2018-3002645, et al. 2018. Concerning cost-of-service study and rate design for a water and wastewater utility, on behalf of the Pennsylvania Office of Consumer Advocate.
192. *West Virginia-American Water Company Rule 42T Tariff Filing to Increase Rates and Charges*, West Virginia Public Service Commission, Case No. 18-0573-W-42T, et al. 2018. Concerning revenue decoupling, on behalf of the Consumer Advocate Division.
193. *Philadelphia Gas Works and Philadelphia Facilities Management Corporation Petition for Approval and Recommendation for Approval of Certain Transactions and Contracts for the Purchase, Storage, Distribution and/or Transmission of Natural and Other Gas, and also Certain Transactions and Contracts Respecting Real Property Owned by the City of Philadelphia and Operated by the Philadelphia*

- Gas Works*, Philadelphia Gas Commission. 2018. Concerning regulatory policy and cost-benefit analysis for a proposed public-private partnership, on behalf of the Philadelphia Public Advocate.
194. *Pa. Public Utility Commission v. Aqua Pennsylvania, Inc., and Aqua Pennsylvania Wastewater, Inc.*, Pennsylvania Public Utility Commission, Docket Nos. R-2018-3003558, et al. 2018. Concerning rate design, class revenue allocation, and automatic rate adjustment mechanism, on behalf of the Pennsylvania Office of Consumer Advocate.
195. *In the Matter of Commission Initiated Investigation into Rates and Revenue Requirements and Customer Service and Communication Issues Pertaining to Central Maine Power Company*, Maine Public Utilities Commission, Docket No. 2018-00194. 2019. Concerning cost-of-service studies and rate design, on behalf of the Maine Office of Public Advocate.
196. *Northern Illinois Gas Company d/b/a Nicor Gas Company: Proposed general increase in gas rates*, Illinois Commerce Commission, Docket No. 18-1775. 2019. Concerning rate design, cost-of-service study, class revenue allocation, and automatic rate adjustment mechanisms, on behalf of the Illinois Office of the Attorney General.
197. *Massachusetts Electric Co. and Nantucket Electric Co., d/b/a/ National Grid*, Massachusetts Department of Public Utilities, D.P.U. 18-150. 2019. Concerning rate design, cost-of-service study, class revenue allocation, and time-of-use rates, on behalf of the Massachusetts Office of Attorney General.
198. *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Pennsylvania Public Utility Commission, Docket Nos. M-2018-2640802 and M-2018-2640803. 2019. Concerning billing, metering, rate design, and other compliance issues for a municipal water authority, on behalf of the Pennsylvania Office of Consumer Advocate.
199. *Commonwealth Edison Company Petition for approval of a Revision to Integrated Distribution Company Implementation Plan. Creation of Rate Residential Time of Use Pricing Pilot (“Rate RTOUPP”)*. Illinois Commerce Commission, Docket Nos. 18-1725/18-1824 (Cons.). Concerning time-of-use rates, on behalf of the Illinois Office of Attorney General.
200. *Washington Utilities and Transportation Commission v. Northwest Natural Gas Co.*, Washington Utilities and Transportation Commission, Docket UG-181053. 2019. Concerning a proposed revenue decoupling automatic rate adjustment mechanism, on behalf of the Washington Office of Attorney General, Public Counsel Unit.
201. *In the Matter of the Application of Washington Gas Light Company for Authority to Increase Existing Rates and Charges and to Revise its Terms and Conditions for Gas Service*, Maryland Public Service Commission, Case No. 9605. 2019. Concerning cost-of-service study on behalf of the Staff of the Maryland Public Service Commission.
202. *Public Service Company of New Hampshire, d/b/a Eversource Energy*, New Hampshire Public Utilities Commission, Docket No. DE 19-057. 2019. Concerning class revenue allocation, rate design, revenue decoupling, other automatic rate adjustment mechanisms, and miscellaneous tariff issues on behalf of AARP.
203. *In the Matter of the Application of Southwest Gas Corporation for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the*

*Properties of Southwest Gas Corporation Devoted to its Arizona Operations*, Arizona Corporation Commission, Docket No. G-01551A-19-0055. 2020. Concerning certain relationships with affiliates, premature pipe replacement, revenue decoupling, automatic rate adjustment mechanisms, and rate design on behalf of Arizona Grain, Inc.

204. *Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of an Increase in Base Distribution Rates*, Massachusetts Department of Public Utilities, Docket No. D.P.U. 19-120. 2020. Concerning cost-of-service study, class revenue allocation, surcharges, and miscellaneous tariff provisions, on behalf of the Massachusetts Office of Attorney General.
205. *In the Matter of an Application of the Halifax Regional Water Commission for Approval of a Schedule of Rates and Charges*, Nova Scotia Utility and Review Board, Matter M09589. 2020. Concerning regulatory policy, cost-of-service study, and rate design, on behalf of the Nova Scotia Consumer Advocate.
206. *Pa. Public Utility Commission v. UGI Utilities Inc. - Gas Division*, Pennsylvania Public Utility Commission, Docket No. R-2019-3015162. 2020. Concerning regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.
207. *Pa. Public Utility Commission v. Philadelphia Gas Works*, Pennsylvania Public Utility Commission, Docket No. R-2020-3017206. 2020. Concerning regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.
208. *Pa. Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Pennsylvania Public Utility Commission, Docket Nos. R- 2020-3017951, *et al.* 2020. Concerning regulatory policy, cost-of-service study, and rate design, on behalf of the Pennsylvania Office of Consumer Advocate.

**Pandemic-related data for counties served by Columbia Gas**

(Note: Columbia Gas does not serve entire population of all counties listed)

| County       | Population<br>(2018) | COVID-19 Cases<br>as of 7/23/2020 | Cases per 100,000 | Unemployment                | Unemployment             | Unemployment        | % Change from<br>Feb. |
|--------------|----------------------|-----------------------------------|-------------------|-----------------------------|--------------------------|---------------------|-----------------------|
|              |                      |                                   |                   | Rate as of<br>February 2020 | Rate as of April<br>2020 | Rate as of May 2020 |                       |
| Adams        | 102,023              | 437                               | 428               | 3.5                         | 14.9                     | 11.6                | 231%                  |
| Allegheny    | 1,225,561            | 6,817                             | 556               | 4.3                         | 16.2                     | 13.2                | 207%                  |
| Armstrong    | 66,331               | 134                               | 202               | 5.8                         | 17.8                     | 13.7                | 136%                  |
| Beaver       | 166,896              | 1,053                             | 631               | 5.2                         | 18.7                     | 15.0                | 188%                  |
| Bedford      | 48,611               | 109                               | 224               | 5.4                         | 18.0                     | 13.6                | 152%                  |
| Butler       | 186,566              | 519                               | 278               | 4.3                         | 15.9                     | 12.0                | 179%                  |
| Centre       | 161,443              | 304                               | 188               | 3.6                         | 10.4                     | 8.3                 | 131%                  |
| Chester      | 517,156              | 4,469                             | 864               | 3.3                         | 11.9                     | 9.7                 | 194%                  |
| Clarion      | 38,827               | 71                                | 183               | 5.5                         | 17.3                     | 11.6                | 111%                  |
| Clearfield   | 80,216               | 107                               | 133               | 5.8                         | 17.2                     | 13.2                | 128%                  |
| Elk          | 30,608               | 38                                | 124               | 6.4                         | 24.8                     | 19.5                | 205%                  |
| Fayette      | 132,289              | 294                               | 222               | 6.6                         | 20.5                     | 16.7                | 153%                  |
| Franklin     | 153,751              | 1,146                             | 745               | 4.2                         | 13.3                     | 10.8                | 157%                  |
| Fulton       | 14,506               | 20                                | 138               | 6.6                         | 17.5                     | 15.7                | 138%                  |
| Greene       | 37,144               | 93                                | 250               | 6.0                         | 14.7                     | 12.7                | 112%                  |
| Indiana      | 85,755               | 186                               | 217               | 5.5                         | 15.9                     | 12.9                | 135%                  |
| Jefferson    | 44,084               | 48                                | 109               | 5.2                         | 16.7                     | 12.5                | 140%                  |
| Lawrence     | 87,382               | 261                               | 299               | 6.3                         | 18.6                     | 14.1                | 124%                  |
| McKean       | 41,806               | 26                                | 62                | 6.6                         | 18.5                     | 15.1                | 129%                  |
| Mercer       | 112,630              | 282                               | 250               | 5.4                         | 17.8                     | 13.9                | 157%                  |
| Somerset     | 74,949               | 105                               | 140               | 5.5                         | 17.9                     | 13.4                | 144%                  |
| Venango      | 52,376               | 53                                | 101               | 6.0                         | 15.6                     | 12.2                | 103%                  |
| Warren       | 40,035               | 14                                | 35                | 5.3                         | 13.2                     | 10.9                | 106%                  |
| Washington   | 207,547              | 613                               | 295               | 4.9                         | 17.4                     | 13.9                | 184%                  |
| Westmoreland | 354,751              | 1,234                             | 348               | 4.9                         | 17.7                     | 14.0                | 186%                  |
| York         | 444,014              | 2,098                             | 473               | 4.1                         | 15.3                     | 12.2                | 198%                  |
| Total        | 4,507,257            | 20,531                            | 456               | 4.6                         | 15.9                     | 12.7                | 177%                  |

Sources:

Population: US Census Bureau, American Community Survey, Table B01003 Total Population (5-year estimate, 2014-2018)

COVID-19 cases: <https://www.health.pa.gov/topics/disease/coronavirus/Pages/Cases.aspx>

Unemployment: Pa. Dept. of Labor & Industry, seasonally adjusted unemployment rate as of March 8-14 (released 4/29/2020)

<https://www.workstats.dli.pa.gov/MediaCenter/MonthlyNews/Pages/default.aspx>



# Report on the Economic Well-Being of U.S. Households in 2019, Featuring Supplemental Data from April 2020

May 2020

# Financial Repercussions from COVID-19

For many families, financial circumstances in 2020 look very different than they did in late 2019 when the SHED was fielded. In order to gain further information about these changing circumstances, the Federal Reserve Board fielded a supplemental survey in April 2020. From the start of March through early April 2020, 19 percent of adults reported losing a job, being furloughed, or having their hours reduced. Among those experiencing these employment disruptions, over one-third expected to have difficulty with their bills in April. Yet, for those not experiencing an employment disruption, financial outcomes at the time of the supplemental survey were largely similar to those observed in the fourth quarter of 2019.

## Employment and Work from Home

Thirteen percent of adults, representing 20 percent of people who had been working in February, reported that they lost a job or were furloughed in March or the beginning of April 2020 (figure 39).<sup>50</sup> These job losses were most severe among workers with lower incomes. Thirty-nine percent of people

working in February with a household income below \$40,000 reported a job loss in March. Another 6 percent of all adults had their hours reduced or took unpaid leave. Taken together, 19 percent of all adults reported either losing a job or experiencing a reduction in work hours in March.

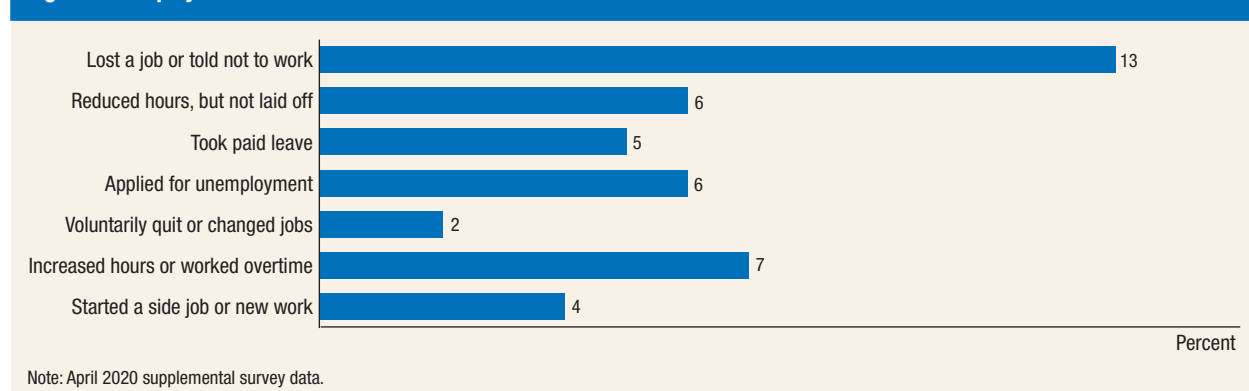
Despite these widespread employment losses, some people took on new or additional employment in March. Seven percent of adults reported that they increased their hours worked or worked overtime. Four percent of adults, including 8 percent of those who experienced a job loss, took on a side job to supplement their income. Some people who lost jobs may also have started other full-time employment or already had second jobs.

Many people who lost a job remained connected to their employer and expected to return to the same job eventually. Nine in 10 people who lost a job said that their employer indicated that they would return to their job at some point. In general, however, people were not told specifically when to expect to return to work. Seventy-seven percent said that their

<sup>50</sup> Respondents were asked about employment events between March 1 and when they took the survey. The survey was in the field from April 3 through April 6. Subsequent references in this section to events in March include the beginning of April

prior to the respondent taking the survey; 1,030 adults responded to the supplemental survey, and results were weighted to be nationally representative. Additional details can be found in the “Description of the Survey” section of this report.

Figure 39. Employment events in March 2020



employer told them to expect to return, but did not give them a return date. A smaller 14 percent were given a specific return date or had already returned to work. It is difficult to predict, however, how long layoffs will ultimately last.

Many of those who were still working worked from home. More than half of workers (53 percent) did at least some work from home in the last week of March, and 41 percent did all their work from home. For comparison, in October 2019, 7 percent of people working for someone else usually worked from home (see the “[Employment](#)” section of this report).

Workers with higher levels of education, particularly bachelor’s degrees, were more likely to work from home. Sixty-three percent of workers with at least a bachelor’s degree worked entirely from home. Among workers with a high school degree or less, 20 percent worked entirely from home, as did 27 percent of workers who have completed some college or an associate degree ([figure 40](#)).

Some people also said that childcare, family obligations, or health concerns contributed to them working less in March. Including those taking paid leave or who had their hours reduced but who were not laid off, 9 percent of adults worked fewer hours in March. Among this group, 21 percent said they worked fewer hours because of family responsibilities or childcare. Seventeen percent said that illness or health limitations had contributed to their reduction in hours. Nevertheless, 47 percent of those

working fewer hours said it was due to fewer hours offered by their employer.

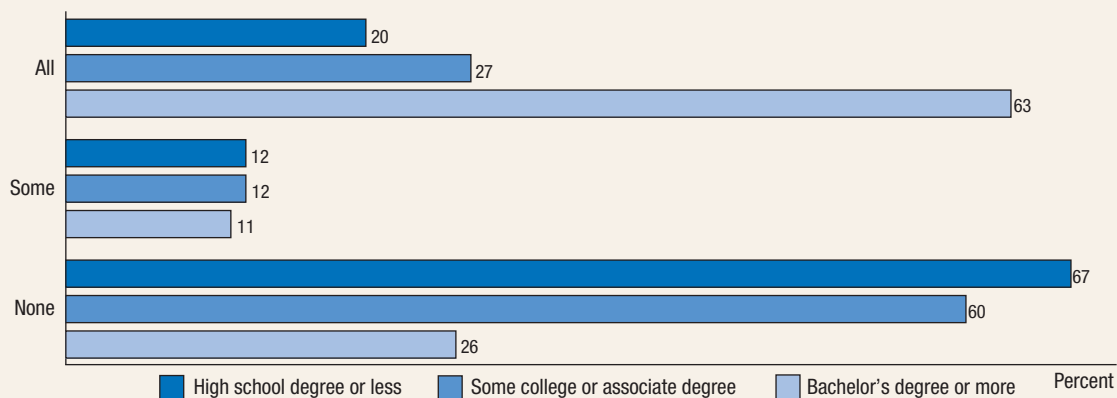
## Effects on Family Finances

For the majority of adults, income, ability to pay current bills, and their approach to covering a hypothetical \$400 unexpected expense appear to be generally stable during the initial period of the COVID-19 pandemic. Yet among those who experienced employment losses, financial well-being is substantially lower.

Consistent with the employment declines in March, many people experienced declines in their incomes. Overall, 23 percent of adults said their income in March was lower than in February, while 5 percent said their income increased and the rest indicated it was about the same ([figure 41](#)). Among those who lost a job or had their hours reduced, 70 percent reported that their income declined. Most people who did not report a job loss or reduced hours said that their income was about the same, although 12 percent said their month-to-month income declined between February and March.

A loss of income can affect people’s ability to pay regular monthly bills. Eighty-one percent of adults said they could pay all the current month’s bills in full in April, which was essentially unchanged from the fourth quarter of 2019 ([table 32](#)). Yet, the survey found far greater rates of difficulty among those experiencing employment disruptions. Sixty-

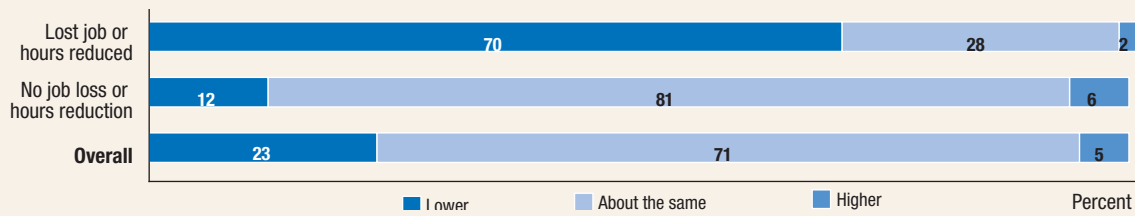
**Figure 40. Amount of work performed remotely in week ending April 4, 2020 (by education)**



Note: Key identifies bars in order from top to bottom. April 2020 supplemental survey data. Among employed and self-employed adults. Education categories in the April supplement differ from those used for the full SHED.



**Figure 41. Income in March 2020 relative to February (by employment disruptions since March 1)**



Note: Key identifies bars in order from left to right. April 2020 supplemental survey data.

**Table 32. Financial resiliency measures (by year and employment disruptions since March 1)**

| Year and employment disruption | Able to pay all current month's bills in full | Would pay \$400 expense with cash or equivalent |
|--------------------------------|---|---|
| <b>2019 SHED</b>               |   |   |
| Overall                        | 84  | 63  |
| <b>2020 April supplement</b>   |   |   |
| Lost job or hours reduced      | 64  | 46  |
| No job loss or hours reduction | 85  | 68  |
| Overall                        | 81  | 64  |

Note: Data from both the 2019 SHED and April 2020 supplemental survey.

four percent of adults who reported a job loss or reduction in hours expected to be able to pay all their bills in full in April, compared to 85 percent of those without an employment disruption.<sup>51</sup>

<sup>51</sup> The April supplement was conducted after the passage of the Families First Coronavirus Response Act and the CARES Act, which provided financial relief to many families and expanded the availability of paid leave for some workers who contract COVID-19. However, the survey was conducted before most benefits were received, so it is unclear how many respondents considered these new policies when responding to the survey.

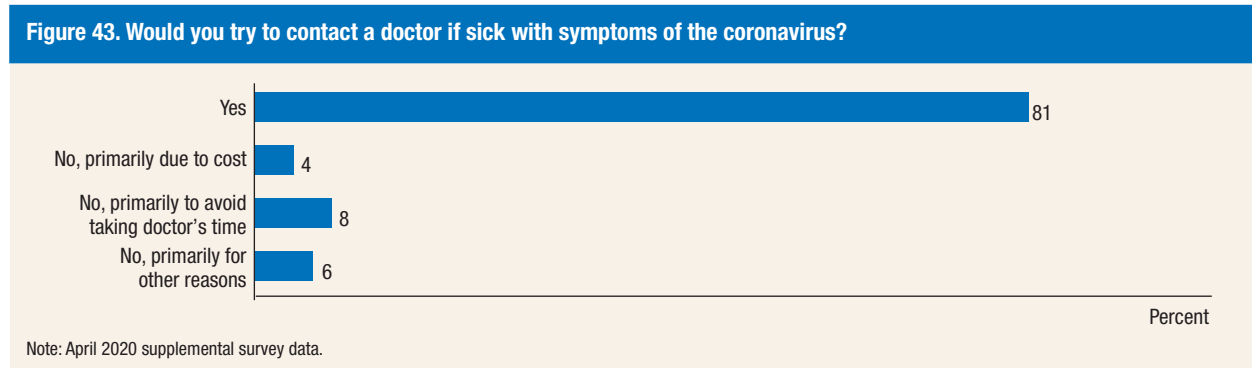
Similarly, for adults overall in April, the share who reported they would pay an unexpected \$400 emergency expense entirely using cash, savings, or a credit card paid off at the next statement was essentially unchanged from the fall of 2019. Yet those who experienced the loss of a job or work hours were less likely to report they would pay an unexpected \$400 expense in these ways.

In addition to the economic effects from the broader employment disruptions related to COVID-19, individuals may experience additional financial challenges if they, or someone close to them, gets sick. Workers who lack paid leave are more likely to face financial hardships or deplete financial resources if they become sick with coronavirus symptoms. Fifty-three percent of employed adults, including those who are self-employed, indicated that could take two or more weeks of paid leave if they got sick with coronavirus symptoms (figure 42). Nonetheless, one-fifth of employed adults reported that they could not take any time off without a reduction in income under these circumstances. On average, those with more education had more leave available. Sixty-four percent of adults with a bachelor's degree or more said that they had at least two weeks of leave, while 42 percent of adults with a high school

**Figure 42. Amount of leave available to use if sick with coronavirus symptoms without a reduction in pay**



Note: April 2020 supplemental survey data. Among employed and self-employed adults.



degree or less said that they could take off at least two weeks without a reduction in income.

Financial circumstances can also affect decisions to seek medical care. Most adults (81 percent) said they would try to contact a doctor if they were to get sick with coronavirus symptoms, although a small share (4 percent) indicated that concerns about cost would deter them (figure 43). Those who experienced a job loss or reduced hours were more likely not to contact a doctor because of costs (8 percent), relative to those who had not (3 percent). However, this is well below the share who reported in the fall that they

skipped any medical care due to an inability to pay (see the “[Dealing with Unexpected Expenses](#)” section of this report). This lower rate of expecting to skip medical care for COVID-19 likely reflects its serious nature.

Results from the supplemental survey reflect financial conditions at the beginning of April 2020 and indicate the nature of families’ experiences of financial conditions at that time. However, the financial repercussions from COVID-19 continue to evolve, and the Federal Reserve Board will continue to monitor the financial conditions of households.

**Experienced loss of employment income since mid-March, and expected income loss in the next four weeks, Pennsylvania households by selected characteristics, as of the week ending July 14, 2020**

|   | Lost income<br>since<br>mid-March | Expect to lose<br>income in<br>next 4 weeks |
|---|-----------------------------------|---|
| <b>Hispanic origin and Race</b>         |                                   |   |
| Hispanic or Latino (may be of any race) | 46.6%                             | 34.5%                                       |
| White alone, not Hispanic               | 46.4%                             | 27.6%                                       |
| Black alone, not Hispanic               | 71.3%                             | 54.2%                                       |
| Asian alone, not Hispanic               | 51.6%                             | 36.6%                                       |
| <b>Education</b>                        |                                   |   |
| Less than high school                   | 58.3%                             | 33.1%                                       |
| High school or GED                      | 48.3%                             | 36.0%                                       |
| Some college/associate's degree         | 58.7%                             | 32.7%                                       |
| Bachelor's degree or higher             | 42.5%                             | 24.9%                                       |
| <b>Household income</b>                 |                                   |   |
| Less than \$25,000                      | 64.7%                             | 56.1%                                       |
| \$25,000 - \$34,999                     | 50.1%                             | 36.8%                                       |
| \$35,000 - \$49,999                     | 57.1%                             | 31.5%                                       |
| \$50,000 - \$74,999                     | 56.8%                             | 39.4%                                       |
| \$75,000 - \$99,999                     | 40.5%                             | 20.9%                                       |
| \$100,000 - \$149,999                   | 45.9%                             | 23.3%                                       |
| \$150,000 - \$199,999                   | 34.4%                             | 15.3%                                       |
| \$200,000 and above                     | 44.6%                             | 26.3%                                       |
| <b>All households in Pennsylvania</b>   | <b>49.6%</b>                      | <b>31.7%</b>                                |

Source: U.S. Census Bureau Household Pulse Survey, Week 11 (week ending July 14, 2020).  
Employment Table 1. Experienced and Expected Loss of Employment Income, by Select  
Characteristics: Pennsylvania

**How Pennsylvania households who lost employment income since mid-March paid their bills in the past 7 days, as of the week ending July 14, 2020**

|   |       |
|---|-------|
| Regular income sources like those used before the pandemic              | 56.4% |
| Credit cards or loans   | 29.8% |
| Money from savings or selling assets                                    | 31.3% |
| Borrowing from friends or family  | 18.7% |
| Unemployment insurance (UI) benefit payments                            | 24.0% |
| Stimulus (economic impact) payment                                      | 28.8% |
| Money saved from deferred or forgiven payments (to meet spending needs) | 6.5%  |
| Did not report  | 1.2%  |

Source: U.S. Census Bureau Household Pulse Survey, Week 11 (week ending July 14, 2020).  
Employment Table 1. Experienced and Expected Loss of Employment Income, by Select  
Characteristics: Pennsylvania

# Impact of COVID-19 on Consumer Energy Use & Outlook

## Results of EPRI National Survey

Omar Siddiqui  
Min Long

April 29, 2020

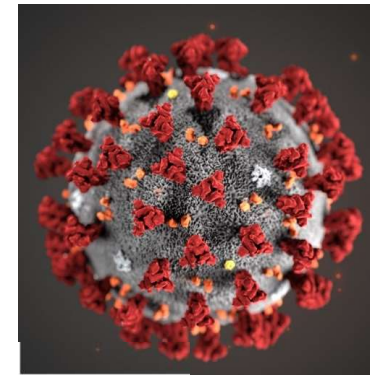
    
[www.epri.com](http://www.epri.com)

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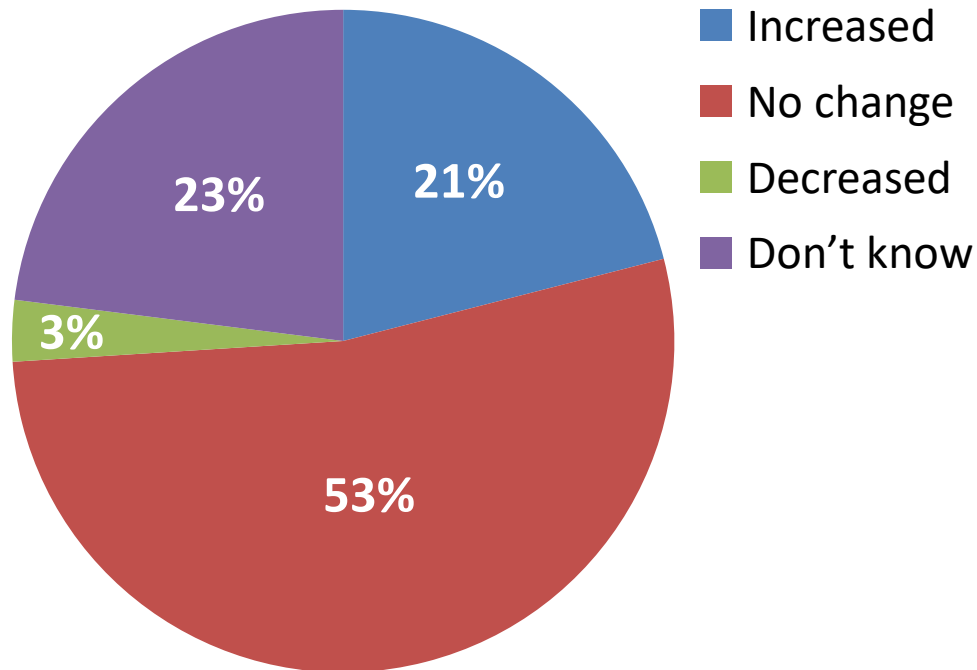
# Introduction

- National EPRI survey on COVID-19 impact on consumer energy use and outlook
- Online panel through YouGov
- Nationally representative sample
  - 2,000 respondents
  - Geographic (census regions and divisions)
  - Demographic (household size, age, education, rent vs. own home, income, etc.)
  - Margin of error +/- 2.3%
- Administered week of April 13

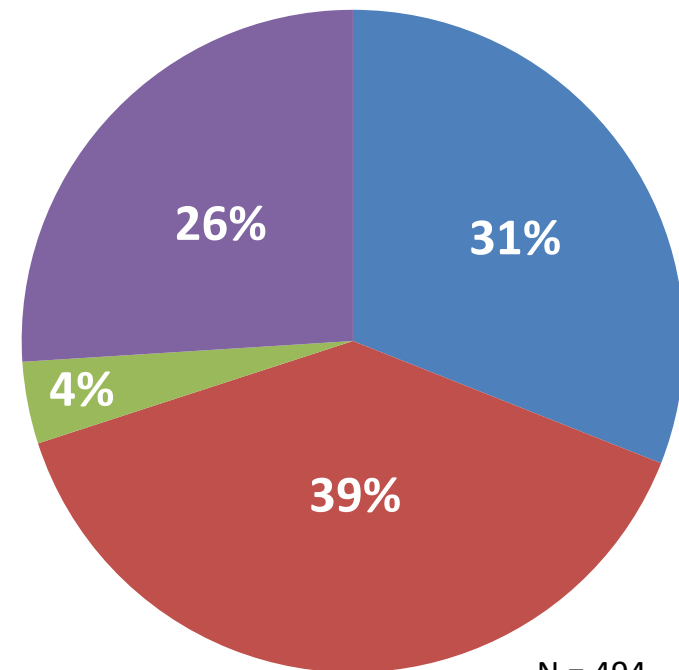


# How has the current situation affected your energy bills?

Overall Results



Those with Kids Schooling at Home

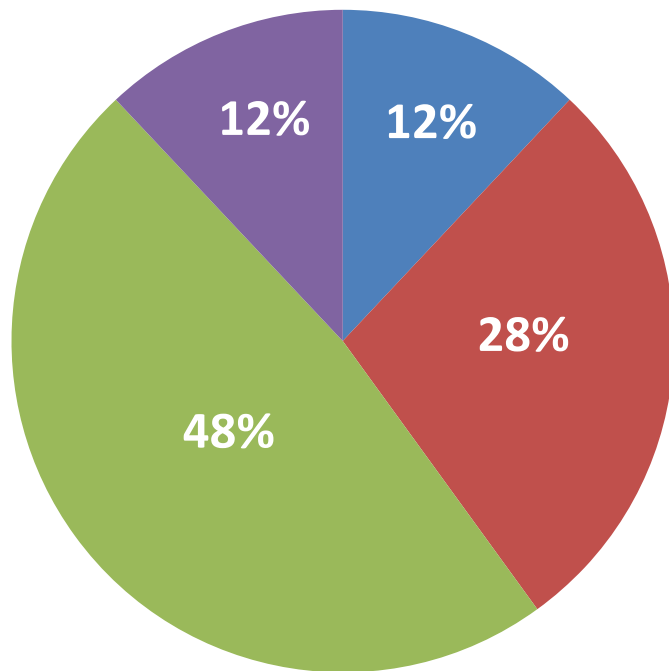


N = 494

Statistical margin of error +/- 2.3%

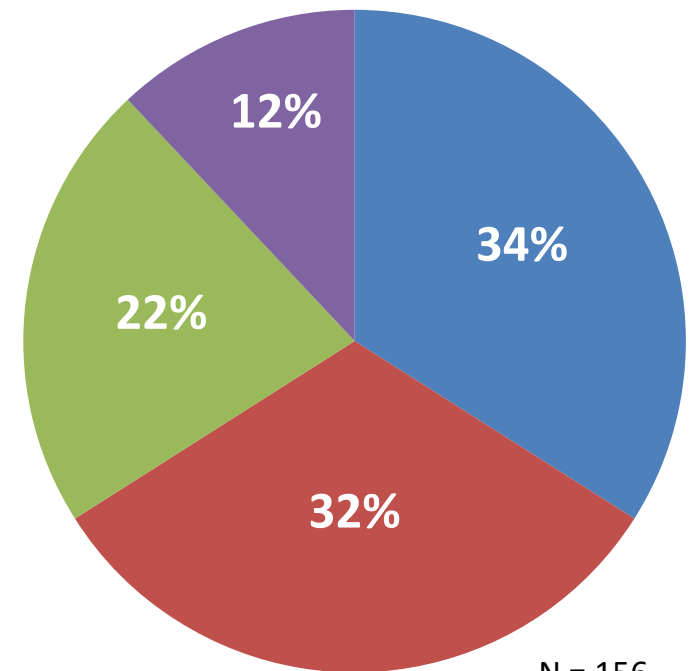
# How do you feel about your energy bills as a result of the current situation?

Overall Results



- Very concerned
- Somewhat concerned
- Not concerned
- Don't know/  
don't pay attention

Those Who Have Lost Their Job



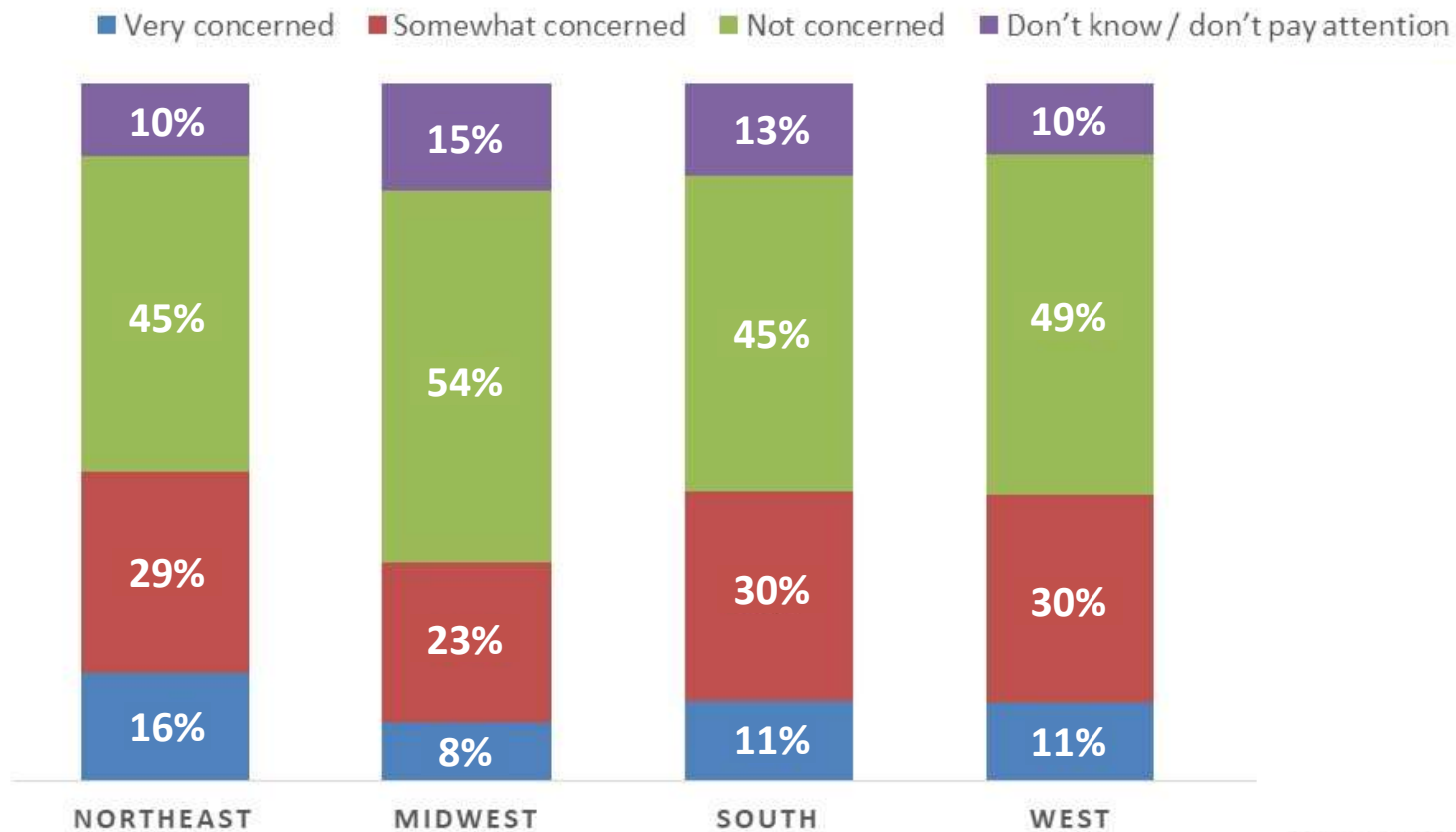
N = 156

Statistical margin of error +/- 2.3%



# How do you feel about your energy bills as a result of the current situation?

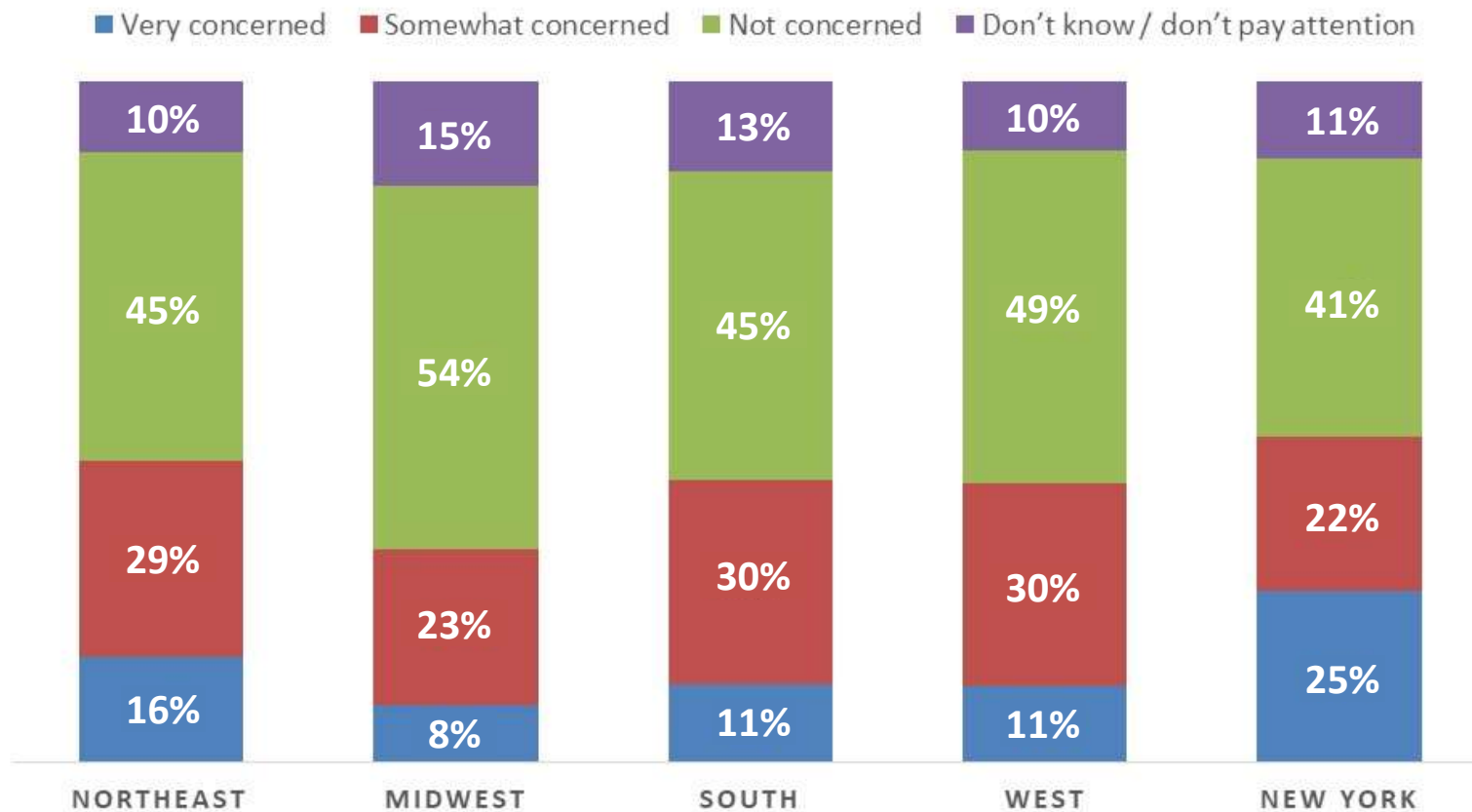
## HIGHER CONCERN IN NORTHEAST



Statistical margin  
of error +/- 2.3%

# How do you feel about your energy bills as a result of the current situation?

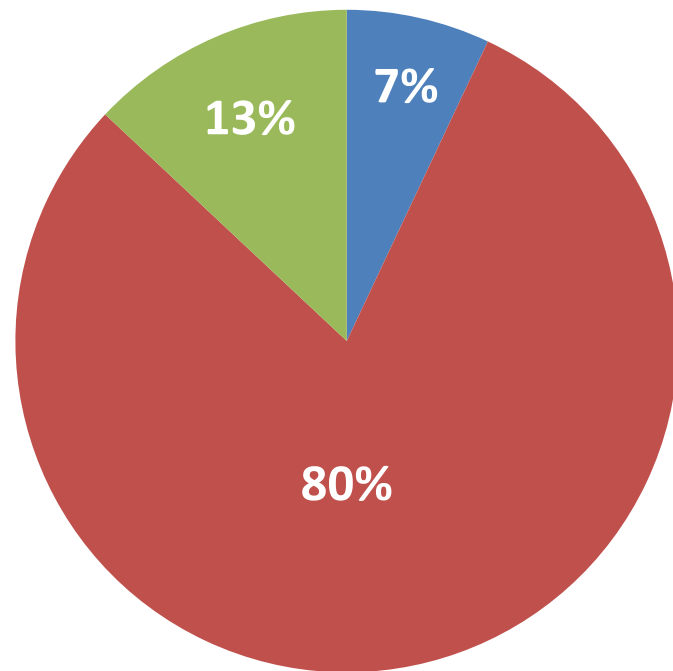
## HIGHER CONCERN IN NORTHEAST, ESPECIALLY NEW YORK



Statistical margin  
of error +/- 2.3%

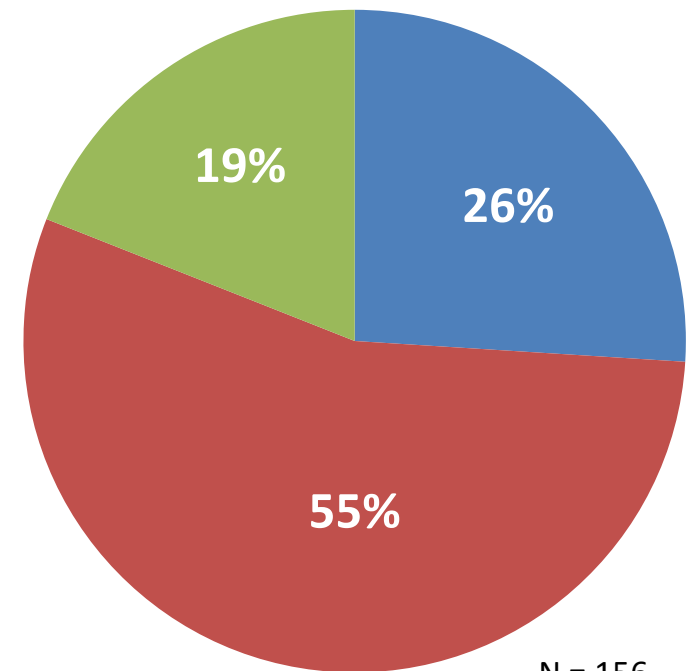
# Have you skipped, or do you intend to skip, an electric or gas bill payment during this crisis?

Overall Results



- Yes
- No
- I don't know

Those Who Have Lost Their Job

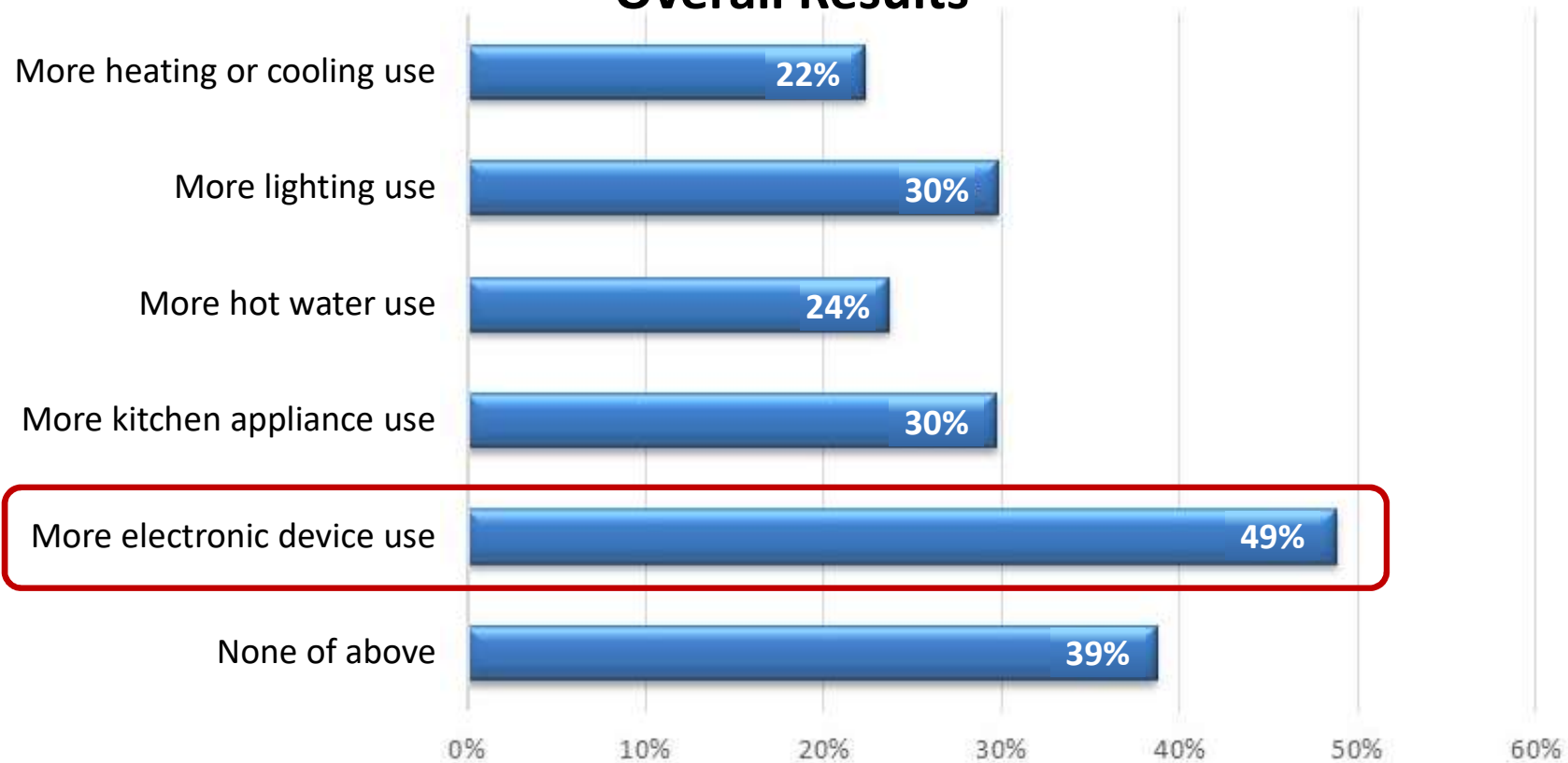


N = 156

Statistical margin of error +/- 2.3%

# What changes have you noticed in your home energy use as a result of COVID-19?

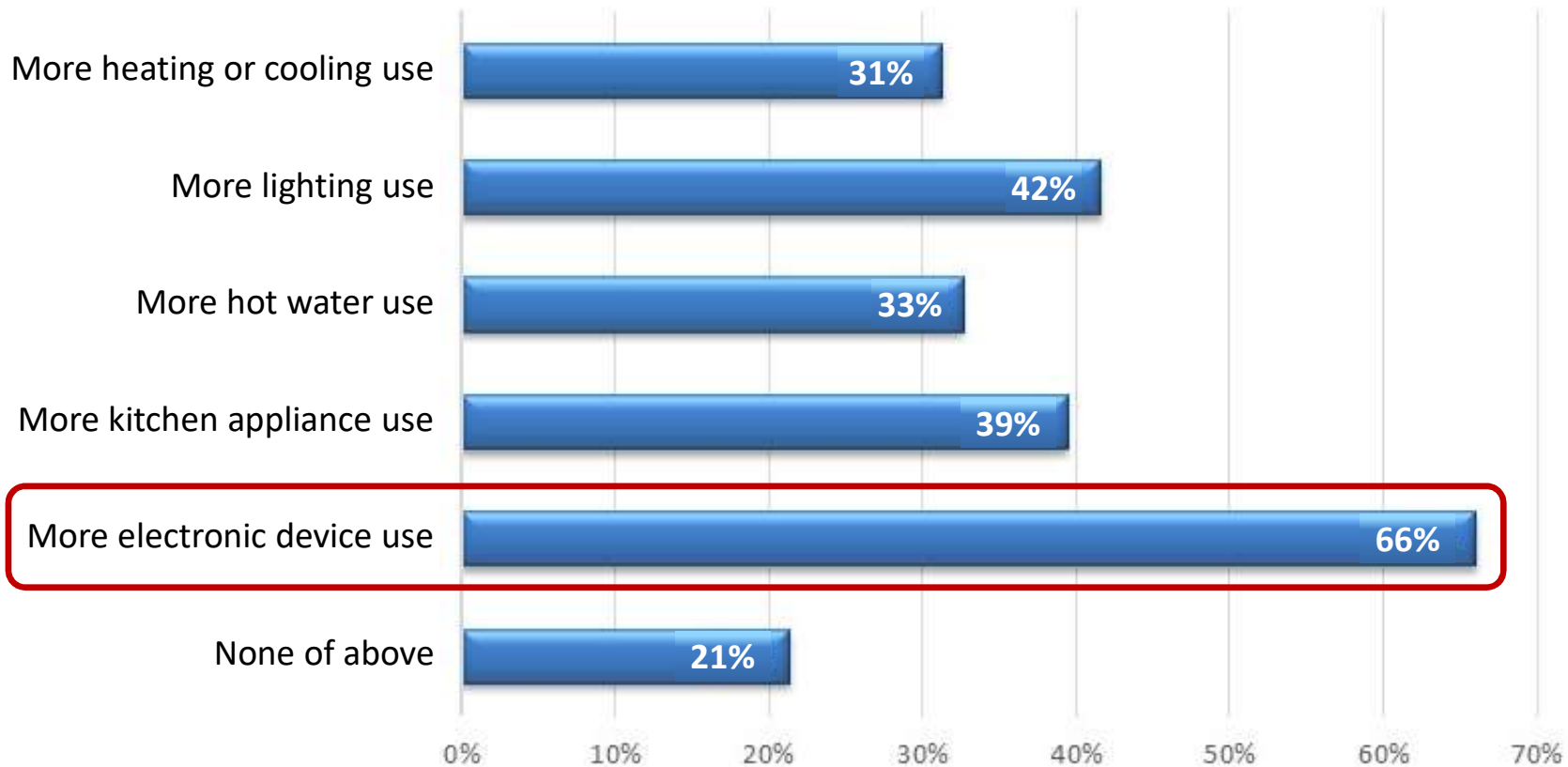
## Overall Results



Statistical margin of error +/- 2.3%

# What changes have you noticed in your home energy use as a result of COVID-19?

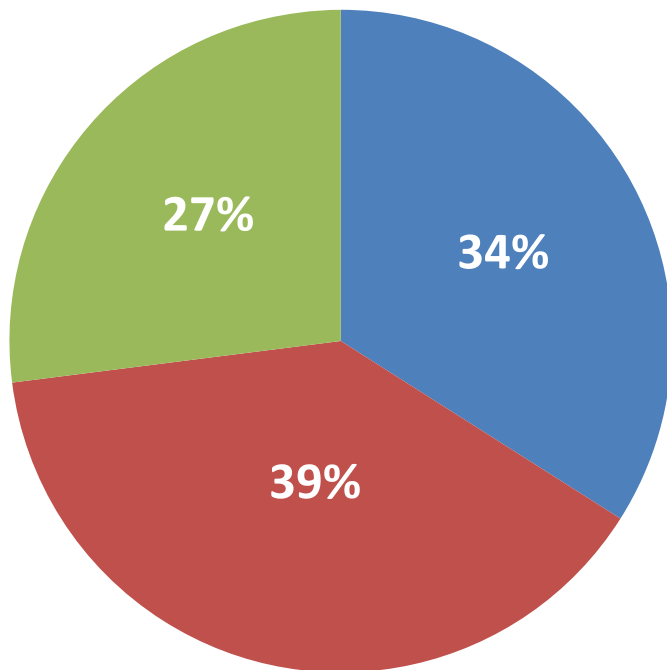
## Those with Kids Schooling at Home



N = 494

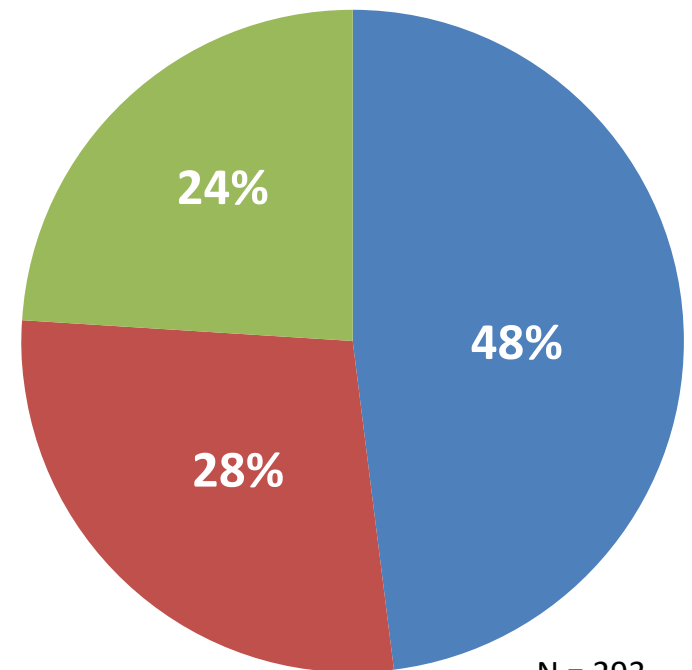
# Are savings from other expenses offsetting any increases in your energy bills?

Overall Results



- Yes
- No
- I'm not sure

Those Who Now Work from Home

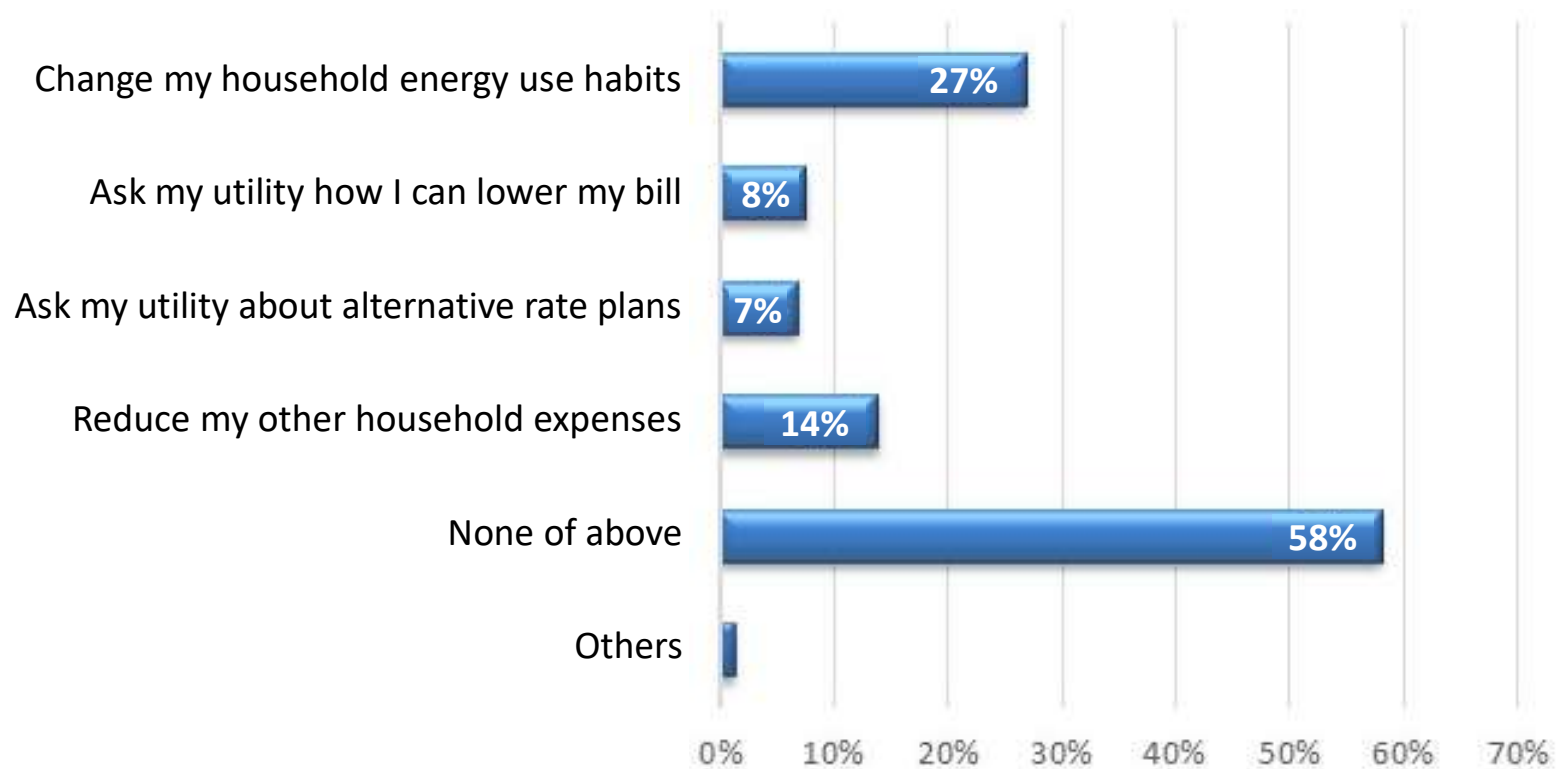


N = 293

Statistical margin of error +/- 2.3%

# Does the current crisis make you more likely to take the following actions related to your energy use?

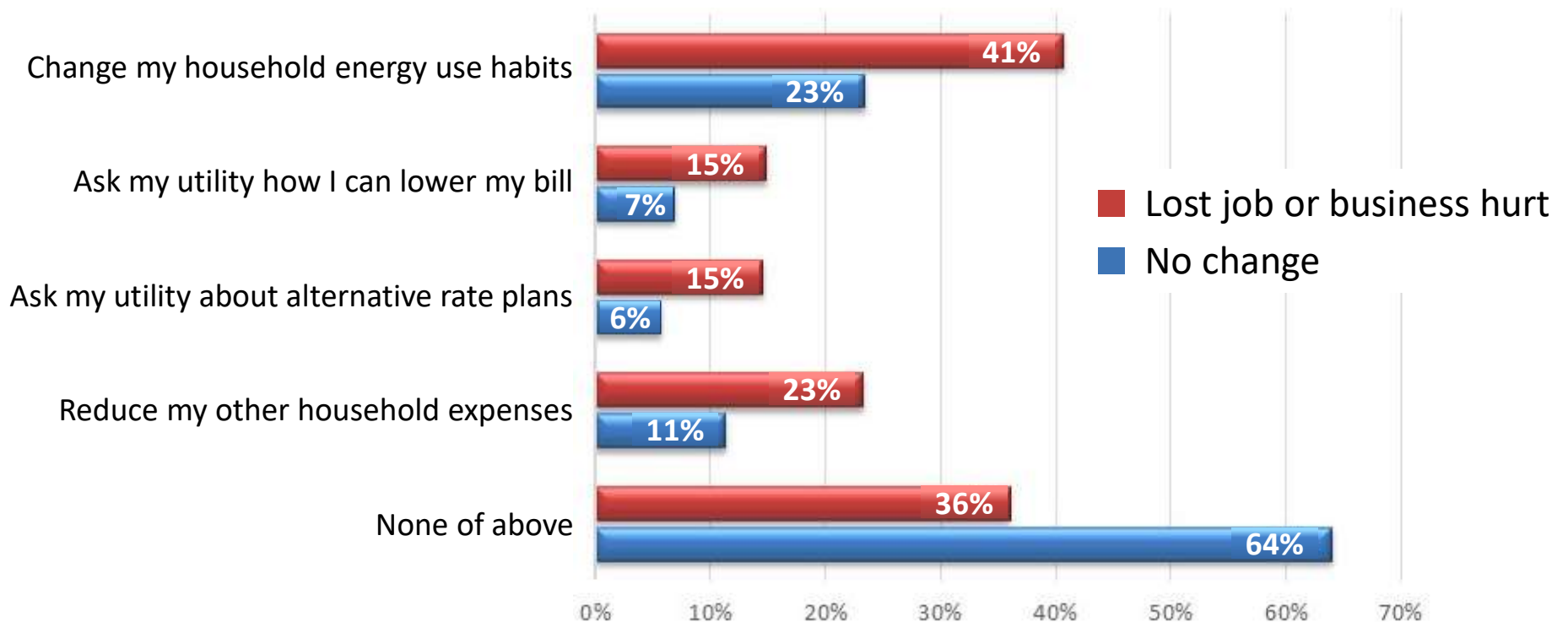
## Overall Results



Statistical margin of error +/- 2.3%

# Does the current crisis make you more likely to take the following actions related to your energy use?

## Results Segmented by Impact of COVID-19 on Employment Status



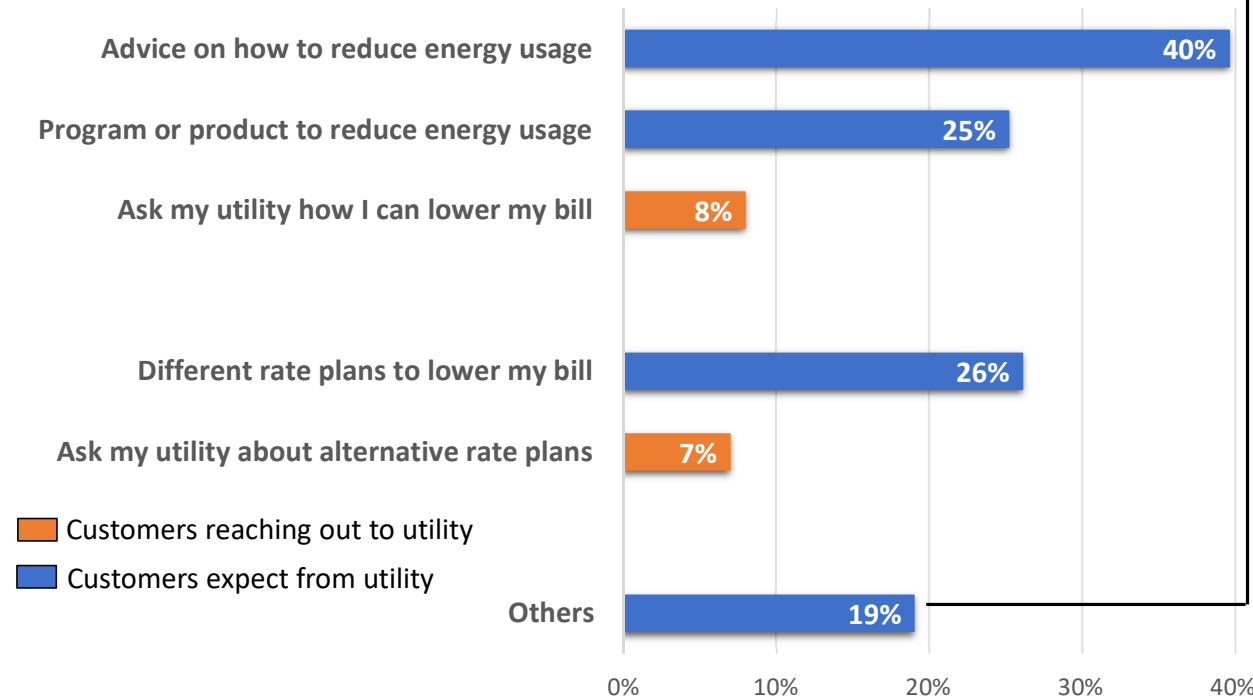
Statistical margin of error +/- 2.3%



# What actions do you expect your electric utility to take?

**Few customers are proactively asking their utility for help** to reduce their energy use and bills; however

**More customers still expect their utility to help** by providing advice, programs, or rate plans to reduce their energy bills

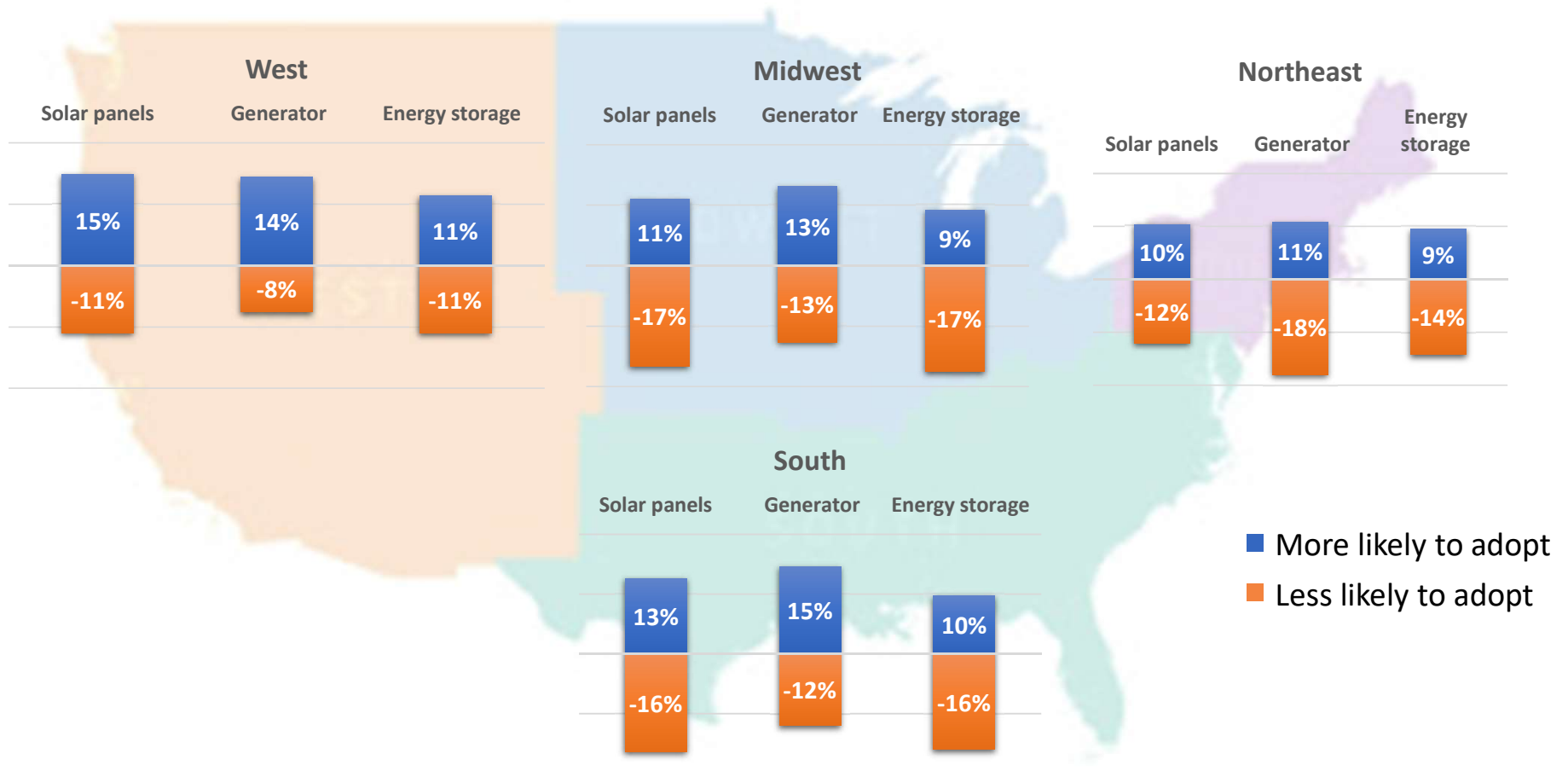


### "Other" Explained

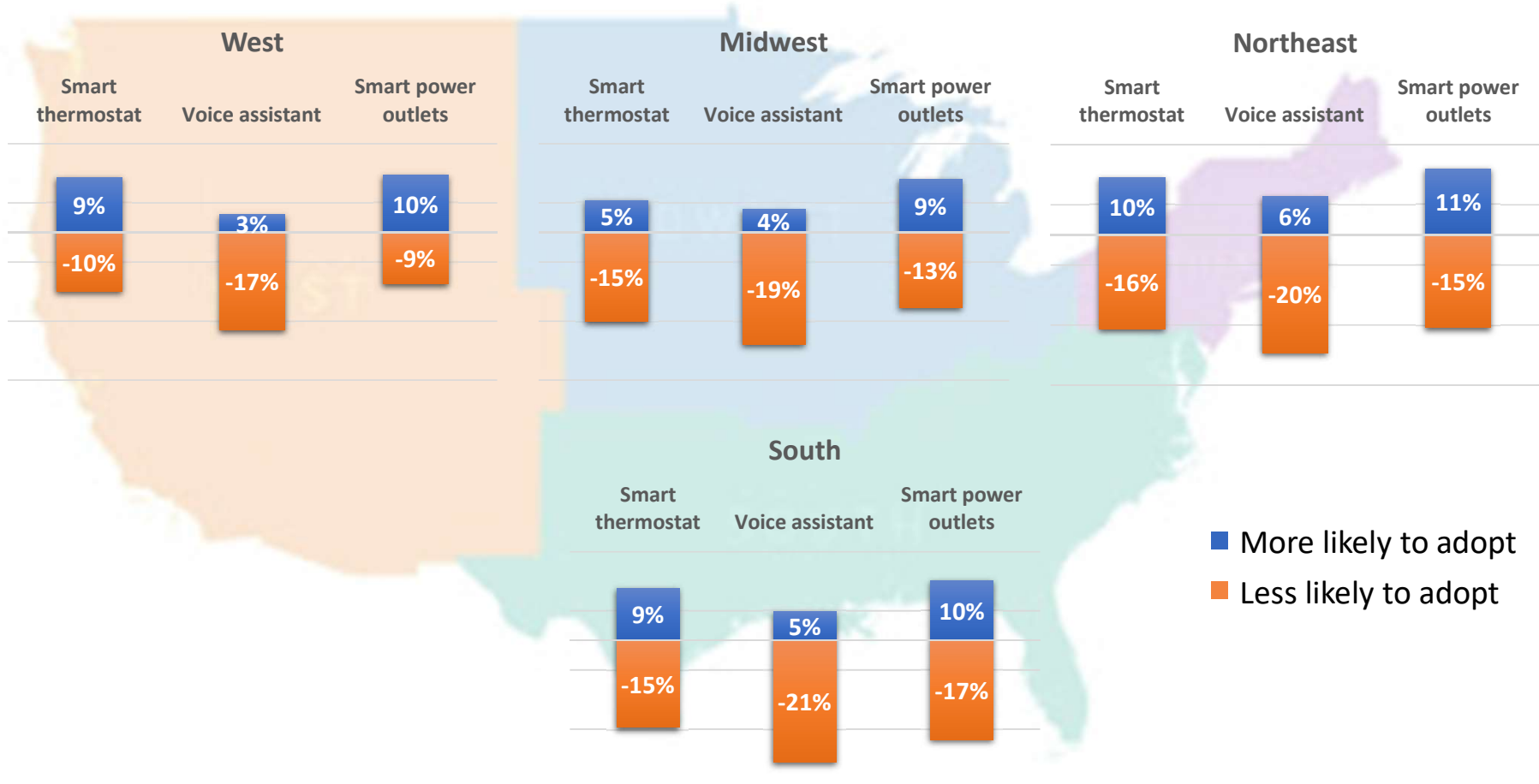
|                         |  |
|-------------------------|--|
| <b>No Need</b>          | None   |
| “                       | Nothing now... might change if my job status changes |
| ”                       | Utilities included in my rent                        |
| <b>Actions Expected</b> | Keep the electricity flowing                         |
|                         | Reduce rates for those in need                       |
| “                       | Waive late fees                                      |
| ”                       | Give me extra time to pay bill                       |
|                         | Provide a credit on my bill                          |
| <b>Negatives</b>        | Expect utility to raise prices                       |
| “                       | Utility won't do anything                            |
| ”                       | Utility hasn't contacted me                          |

***“Does the current crisis make you more likely or less likely  
to purchase any of the following within this year?”***  
Results by U.S. census regions

# Power Generation & Storage

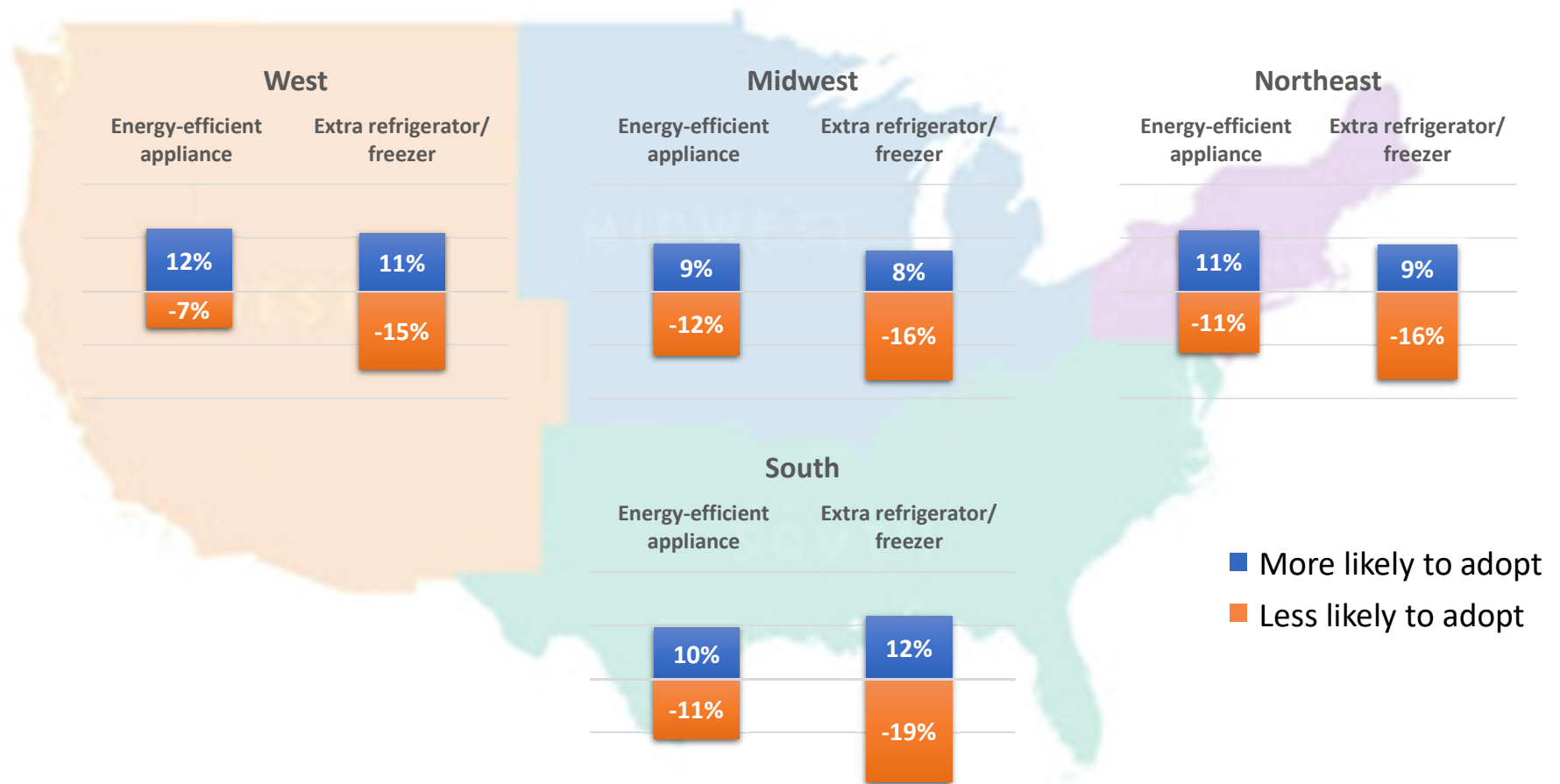


# Smart Devices

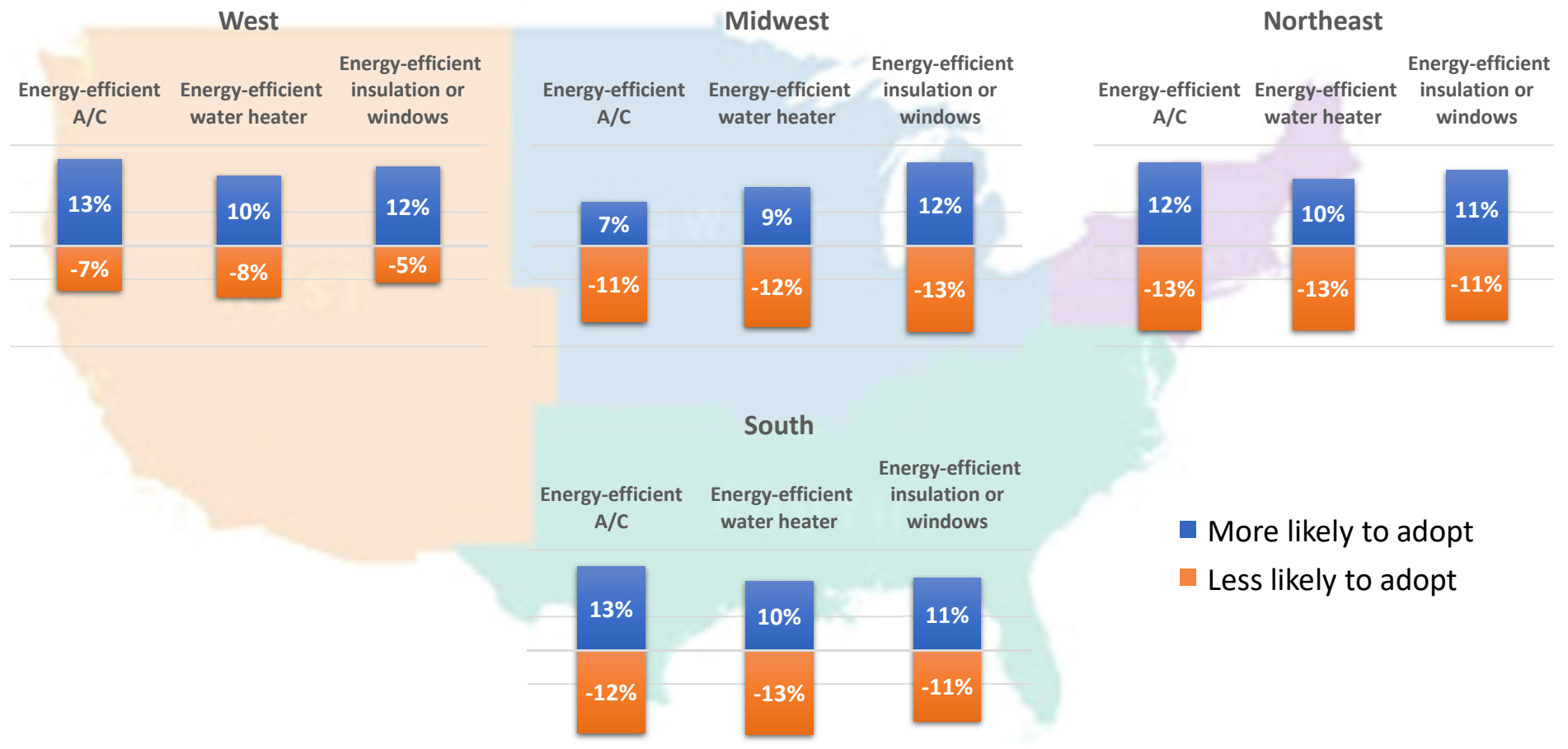


■ More likely to adopt  
■ Less likely to adopt

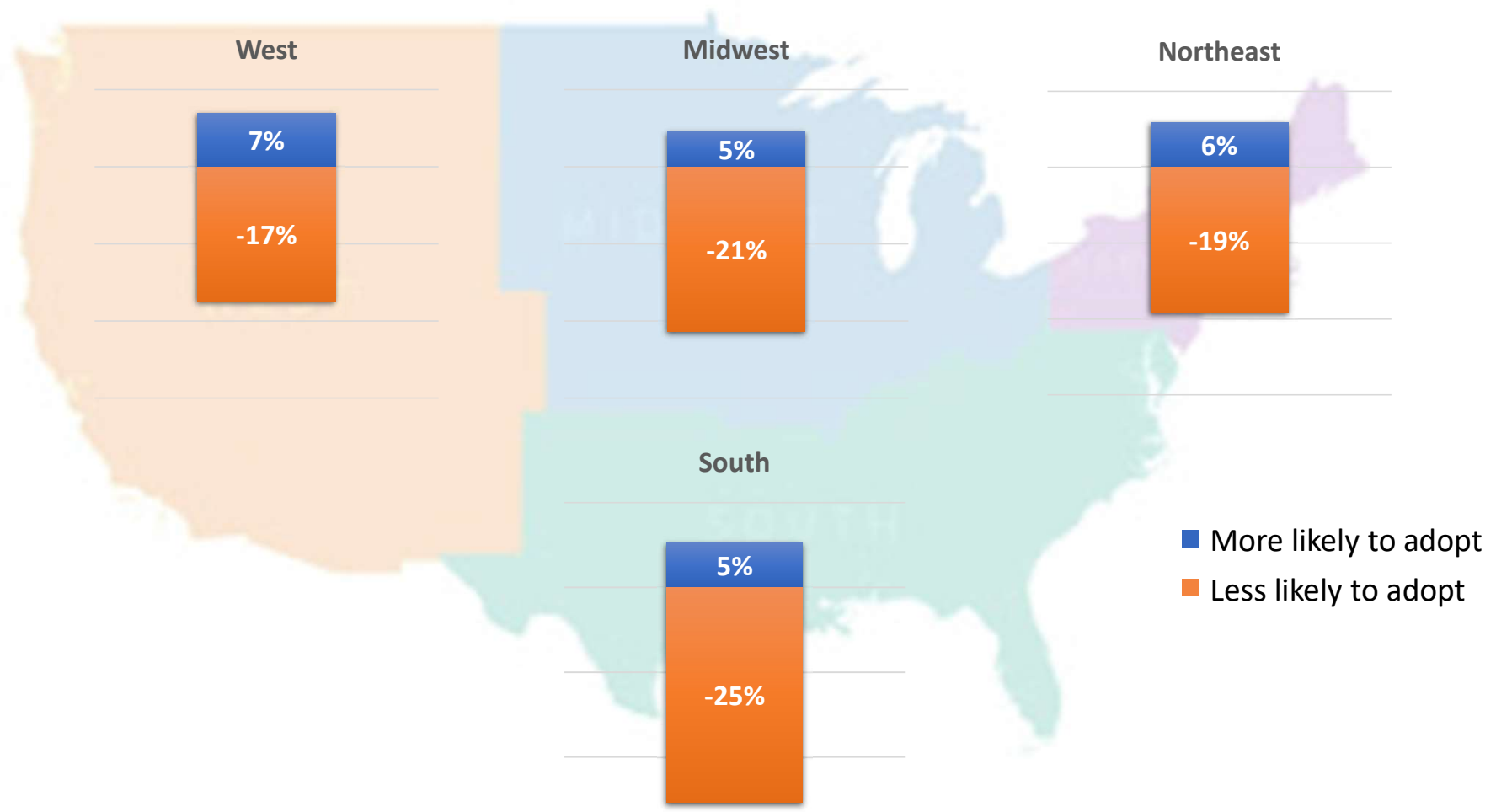
# Home Appliances



# Energy-efficient Upgrades



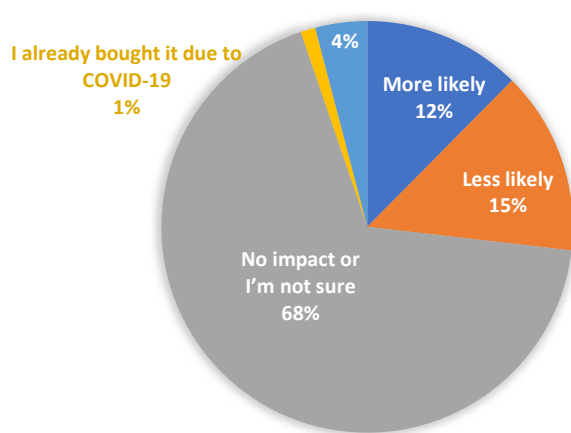
# Electric Vehicles



# COVID-19 spurs greatest uptick in solar panel interest among 30-44 age bracket; least among 65+ age bracket

All Respondents

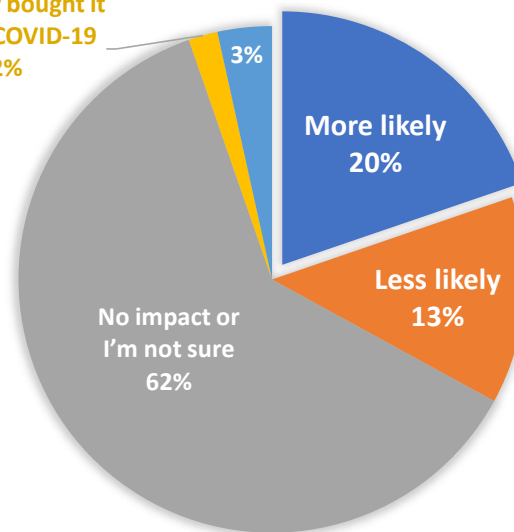
I had it prior to COVID-19



30-44 Age Bracket

I had it prior to COVID-19

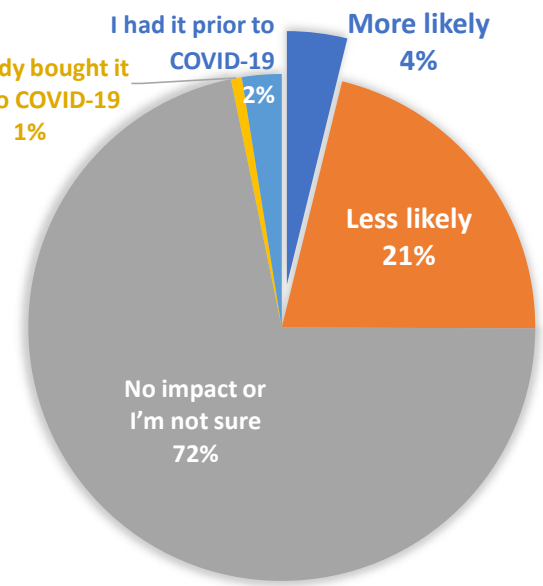
I already bought it due to COVID-19



65+ Age Bracket

I had it prior to COVID-19

I already bought it due to COVID-19



Similar age-segment trend for COVID-19 impact on interest in other technologies



# Together...Shaping the Future of Electricity

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Columbia Gas of Pennsylvania, Inc.

:  
:  
:  
:  
:

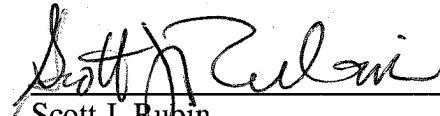
Docket No. R-2020-3018835

VERIFICATION

I, Scott J. Rubin, hereby state that the facts set forth in my Direct Testimony, OCA Statement 1, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: July 28, 2020  
\*293023

Signature:

  
\_\_\_\_\_  
Scott J. Rubin

Consultant Address: 333 Oak Lane  
Bloomsburg, PA 17815