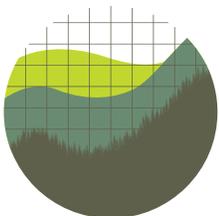




# Opportunities for Valuing Climate Impacts in U.S. State Electricity Policy



Institute for  
Policy Integrity

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# Executive Summary

With an absence of federal leadership on climate change, states have taken varying approaches toward reducing greenhouse gas emissions. Many states are taking bold stances to push climate policy forward, often framing clean energy mandates or greenhouse gas emissions reductions goals as upholding the Paris Accord or doing what the federal government refuses to do to take action on global climate change. Other states are taking more moderate steps, recognizing the costs that greenhouse gas emissions will impose on their economies and still desiring to make policy decisions to help pave the way for a more sustainable future.

For both moderate and bold state-level actions, valuing climate damages monetarily is an important tool for state electricity regulators. This valuation includes the costs of greenhouse gas emissions spanning property damage, health impacts, and crop losses. Incorporating climate change considerations into electricity policy by putting a dollar value on the harms from each additional ton of greenhouse gas pollution can help regulators evaluate policy options and make rational decisions. This technique can also be an important tool for clean energy advocates who are looking to show that the costs of developing clean energy resources are warranted in light of emissions-reduction benefits.

State electricity regulators have a significant opportunity to use economic approaches like valuing climate impacts to better inform their decisionmaking. In particular, this approach can be used to account for the climate effects associated with different types of proposed generation resources. Regulators in 10 states have already begun the process of using monetary estimates of climate damages in their electricity proceedings.

In these jurisdictions, climate damages are taken into account in three main ways: utility resource planning, compensation for low- or zero-emissions resources, and cost-benefit analysis frameworks.

Other jurisdictions can learn from these 10 states by similarly incorporating a value for climate damages in their electricity policies. Even state leaders who are less interested in efforts aimed specifically at addressing climate change may still be interested in related issues. Putting a dollar value on pollution can help in promoting a clean energy economy and job development in their state, or creating a modern electricity grid where polluting generators pay for the pollution they emit so that cleaner technologies can compete on equal footing.

Many states already have the legal framework in place for utilities commissions to begin considering these approaches. Statutes and regulations exist in states across the country that would allow electricity regulators to account for damages from greenhouse gas emissions, but these regulators have not yet taken steps to do so. This report highlights legal authority that would allow additional states to value climate change in electricity policy. Additionally, this report includes information that can be used by states that have already begun to value climate damages and are seeking to expand their efforts to include other types of decisions, thereby more comprehensively internalizing the damages from carbon dioxide emissions.

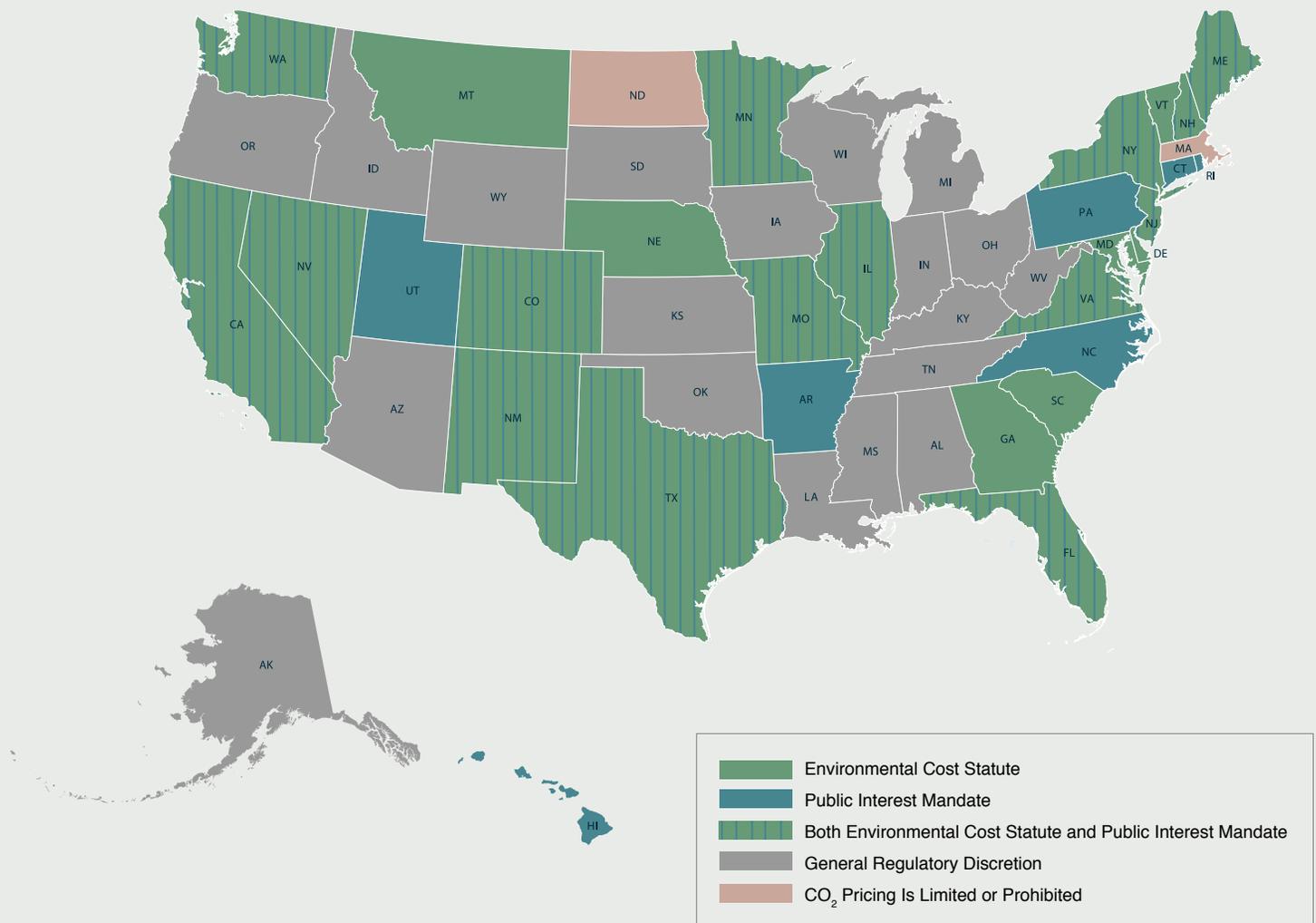
Regulators in the following states have already begun using monetary estimates of climate damages in electricity proceedings:

California	Minnesota
Colorado	Nevada
Illinois	New Jersey
Maine	New York
Maryland	Washington

This report also assesses the potential to expand the valuation of climate damages in state electricity policy by examining the statutory and regulatory authority that would allow state regulators to weigh monetized climate effects in their decisionmaking. Sections 2 and 3 highlight several states, explaining their statutory landscapes in depth. Section 2 focuses on states that have already incorporated climate damages into electricity policies, while Section 3 hones in on specific statutory language that creates policy openings for states to do so. Table 5 and Appendix A give information for all 50 U.S. states: the table provides a quick reference guide, while Appendix A includes specific statutory provisions and other pertinent information. Finally, Appendix B contains a list of public comments that the Institute for Policy Integrity has submitted to states, addressing why and how state decisionmakers should price climate damages in electricity policy.

Our key findings immediately follow the executive summary. We find 22 states that present plausible opportunities for incorporating climate impact valuation into electricity policy. Approaching electricity regulation through the lens of internalizing climate damages would maximize net benefits for constituents and pave the way for a cleaner energy future.

### Opportunities for Valuing Climate Impacts in Electricity Policy



# Key Findings

**B**elow is a table of statutory authority by state, plus an indication of whether a state has already used some form of climate impact valuation in an official document or decision. We identify states that provide good opportunities for expanding the valuation of climate damages.

**Table 1. Categories of Legal Authority to Value Climate Damages in Electricity Policy by State<sup>1</sup>**

*Highlighted states either (1) have explicit statutory authority to consider environmental externalities and/or (2) have already valued climate damages, in some, but not all, of their state proceedings. Some states satisfy both of these criteria. These states present good opportunities for incorporating or further applying climate damage valuation.*

State	“Just and Reasonable” Standard	Public Interest Mandate	Environmental Cost Statute	State Already Values Climate Damages
Alabama	✓			
Alaska	✓			
Arizona	✓			
Arkansas	✓	✓		
California	✓	✓	✓	✓
Colorado	✓	✓	✓	✓
Connecticut	✓	✓		
Delaware	✓		✓	
Florida	✓	✓	✓	
Georgia	✓		✓	
Hawaii	✓	✓		
Idaho	✓			
Illinois	✓	✓	✓	✓
Indiana	✓			
Iowa	✓			
Kansas	✓			
Kentucky	✓			
Louisiana	✓			
Maine	✓	✓	✓	✓
Maryland			✓	✓
Massachusetts	CO <sub>2</sub> pricing authority limited			
Michigan	✓			

<sup>1</sup> See *infra* Appendix A for the statutory authority underlying the findings in this table.

State	“Just and Reasonable” Standard	Public Interest Mandate	Environmental Cost Statute	State Already Values Climate Damages
Minnesota		✓	✓	✓
Mississippi				
Missouri	✓	✓	✓	
Montana	✓		✓	
Nebraska			✓	
Nevada		✓	✓	✓
New Hampshire	✓	✓	✓	
New Jersey	✓	✓	✓	✓
New Mexico	✓	✓	✓	
New York	✓	✓	✓	✓
North Carolina	✓	✓		
North Dakota	CO <sub>2</sub> pricing prohibited			
Ohio	✓			
Oklahoma	✓			
Oregon	✓			
Pennsylvania		✓		
Rhode Island	✓	✓		
South Carolina	✓		✓	
South Dakota	✓			
Tennessee	✓			
Texas	✓	✓	✓	
Utah	✓	✓		
Vermont	✓		✓	
Virginia	✓	✓	✓	
Washington	✓	✓	✓	✓
West Virginia	✓			
Wisconsin	✓			
Wyoming	✓			

# I. Introduction

While the federal government declines to take action on climate change, many states have forged ahead on reducing greenhouse gas emissions. There are already a number of states with clean energy mandates or emissions reduction goals. A number of state leaders from around the country frame these policies as helping to uphold the Paris Accord, making up for some of the lack of progress at the federal level.

Other state leaders may be less interested in efforts aimed specifically at addressing climate change, but they are interested in promoting a clean energy economy and job development in their states, or a modern electricity grid where polluting generators pay for the pollution they emit and cleaner technologies can compete on equal footing. A number of these states have already recognized the promise of pricing climate effects to help account for the damages of greenhouse gas emissions in electricity policy.

A nationwide, economy-wide policy that internalizes the damages from greenhouse gas emissions, like a nationwide carbon tax or cap-and-trade program, would be the most desirable approach.<sup>2</sup> But, given the current political atmosphere, such a policy does not appear likely to happen in the near future. So, in the absence of such policies, by pricing climate damages in their electricity markets, states can make substantial progress to achieve desirable emissions reductions.

An especially useful tool for pricing climate damages in electricity policy is the Social Cost of Carbon.<sup>3</sup> The Social Cost of Carbon calculates in dollars the costs of the harms that each additional ton of carbon dioxide emissions will cause. The Social Cost of Carbon, based upon the best available peer-reviewed science and economics, is a readily available metric that can help states account for the effects of greenhouse gas emissions in a rigorous, transparent way. A widely-used set of estimates of the Social Cost of Carbon were developed by the federal government's Interagency Working Group on the Social Cost of Greenhouse Gases (IWG), which operated from 2009-2017. The IWG's Social Cost of Carbon remains the best available set of estimates for emission damages and is discussed in more detail below.<sup>4</sup>

This report focuses on opportunities for states to take climate impacts into account in electricity policy at the state level. This is done by looking at examples of states that are already weighing monetized climate damages in their electricity decisions and by examining the legal bases for expanding use of the Social Cost of Carbon to new states, or to new types of proceedings in the already active states. One hope is that states already valuing climate damages in electricity policy can serve as models for advocates looking to persuade decisionmakers in other states to adopt their approaches.

Depending on the structure of the electricity sector in each state, different types of opportunities exist for valuing climate damages. For states with fully vertically integrated utilities, utilities regulators can value emissions when reviewing utilities' proposed resource mixes in their integrated resource plans. For deregulated states, where utilities purchase electricity from wholesale markets, regulators can require utilities to compensate generators for the value of low- or zero-

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<sup>2</sup> This policy could take different forms, such as a tax on emissions or a cap-and-trade scheme.

<sup>3</sup> Throughout this report, the Social Cost of Carbon refers to the range of estimates developed by the federal Interagency Working Group between 2009 and 2016.

<sup>4</sup> See generally Richard L. Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCIENCE 655 (2017). For a discussion of why the Trump administration's efforts to weaken the IWG's SCC are methodologically flawed see INST. FOR POL'Y INTEGRITY, HOW THE TRUMP ADMINISTRATION IS OBSCURING THE COSTS OF CLIMATE CHANGE (2018), [https://policyintegrity.org/files/publications/Obscuring\\_Costs\\_of\\_Climate\\_Change\\_Issue\\_Brief.pdf](https://policyintegrity.org/files/publications/Obscuring_Costs_of_Climate_Change_Issue_Brief.pdf).

carbon generation. In both vertically integrated and deregulated states, utilities commissions can design rates to reflect the greenhouse gas attributes of the electricity used by consumers.

## Electricity Generation and State Emissions

Electricity generation from the entire United States produced nearly 1.9 billion metric tons of carbon dioxide-equivalent (CO<sub>2</sub>e)<sup>5,6</sup> emissions in 2015.<sup>7</sup> This is 37% of U.S. greenhouse gas emissions that year and 5.2%<sup>8</sup> of global emissions. When the damages from the country's entire electricity-related greenhouse gas emissions are monetized with the Social Cost of Carbon,<sup>9</sup> the total cost of climate damages for the single year is over \$84 billion.<sup>10</sup>

Because this report focuses on state-level policies, it is important for decisionmakers to understand the emissions (and subsequent damages/costs) at stake from electricity generation in each state, detailed in the table below.

**Table 2. Emissions from Electricity Generation by State in 2015<sup>11</sup>**

State	Emissions from Electric Power (millions of metric tons CO <sub>2</sub> e)	Climate Damages (2017\$)	State	Emissions from Electric Power (millions of metric tons CO <sub>2</sub> e)	Climate Damages (2017\$)
Alabama	61.9	\$2.761 billion	Georgia	55.7	\$2.485 billion
Alaska	3.0	\$134 million	Hawaii	6.6	\$294 million
Arizona	49.6	\$2.213 billion	Idaho	1.5	\$67 million
Arkansas	27.0	\$1.204 billion	Illinois	76.5	\$3.413 billion
California	44.3	\$1.976 billion	Indiana	87.3	\$3.894 billion
Colorado	36.6	\$1.633 billion	Iowa	28.4	\$1.267 billion
Connecticut	7.4	\$330 million	Kansas	26.4	\$1.178 billion
Delaware	3.3	\$147 million	Kentucky	76.7	\$3.422 billion
Florida	107.6	\$4.8 billion	Louisiana	39.2	\$1.749 billion

<sup>5</sup> Different greenhouse gases, such as methane and sulfur dioxide, produce different amounts of atmospheric warming per ton than carbon dioxide does. In order to provide a single understandable total of greenhouse gases emitted, the warming potential of each of the greenhouse gases emitted is standardized into an equivalent amount of carbon dioxide and summed together.

<sup>6</sup> States report emissions in either CO<sub>2</sub> or CO<sub>2</sub>e. CO<sub>2</sub>e captures all greenhouse gases in terms of CO<sub>2</sub> so they are interchangeable in some circumstances. CO<sub>2</sub> makes up the majority of greenhouse gas emissions from electricity generation, see <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#electricity>.

<sup>7</sup> U.S. EPA, Sources of Greenhouse Gas Emissions: Electricity Sector Emissions, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> (last visited Mar. 11, 2019).

<sup>8</sup> Global emissions in 2015 were 36.2 billion metric tons CO<sub>2</sub>e. See EUROPEAN COMM'N JOINT RESEARCH CTR., TRENDS IN GLOBAL CO<sub>2</sub> EMISSIONS (2016), [http://edgar.jrc.ec.europa.eu/news\\_docs/jrc-2016-trends-in-global-co2-emissions-2016-report-103425.pdf](http://edgar.jrc.ec.europa.eu/news_docs/jrc-2016-trends-in-global-co2-emissions-2016-report-103425.pdf).

<sup>9</sup> Using \$46/metric ton CO<sub>2</sub>e for 2016 year emissions in 2018 dollars.

<sup>10</sup> The SCC is most accurate for marginal changes in emissions; U.S. sector emissions are relatively small given the percentage of global emissions. However, we should expect with larger changes a small relative decline in the SCC. But for this calculation it should be a good approximation. See PETER HOWARD & JASON SCHWARTZ, INST. FOR POL'Y INTEGRITY, FOREIGN ACTION, DOMESTIC WINDFALL: THE U.S. ECONOMY STANDS TO GAIN TRILLIONS FROM FOREIGN CLIMATE ACTION (2015), <https://policyintegrity.org/files/publications/ForeignActionDomesticWindfall.pdf>.

<sup>11</sup> U.S. Energy Info. Admin., State Carbon Dioxide Emissions Data: Electricity, <https://www.eia.gov/environment/emissions/state/analysis/> (last modified Oct. 31, 2018).

State	Emissions from Electric Power (millions of metric tons CO <sub>2</sub> e)	Climate Damages (2017\$)
Maine	1.6	\$71 million
Maryland	16.7	\$745 million
Massachusetts	11.3	\$504 million
Michigan	62.4	\$2.784 billion
Minnesota	27.0	\$1.204 billion
Mississippi	24.7	\$1.102 billion
Missouri	65.8	\$2.935 billion
Montana	17.6	\$785 million
Nebraska	23.4	\$1.044 billion
Nevada	14.4	\$642 million
New Hampshire	3.5	\$156 million
New Jersey	17.9	\$799 million
New Mexico	24.6	\$1.097 billion
New York	29.2	\$1.303 billion
North Carolina	51.7	\$2.306 billion
North Dakota	29.8	\$1.329 billion

State	Emissions from Electric Power (millions of metric tons CO <sub>2</sub> e)	Climate Damages (2017\$)
Ohio	82.6	\$3.685 billion
Oklahoma	39.6	\$1.767 billion
Oregon	8.6	\$384 million
Pennsylvania	87.9	\$3.921 billion
Rhode Island	2.8	\$125 million
South Carolina	29.3	\$1.307 billion
South Dakota	1.9	\$85 million
Tennessee	33.5	\$1.494 billion
Texas	213.6	\$9.529 billion
Utah	32.9	\$1.468 billion
Vermont	0.0	\$0
Virginia	31.8	\$1.419 billion
Washington	10.8	\$482 million
West Virginia	66.0	\$2.944 billion
Wisconsin	41.5	\$1.851 billion
Wyoming	43.3	\$1.932 billion
<b>Total</b>	<b>1,886.5</b>	<b>\$84.157 billion</b>

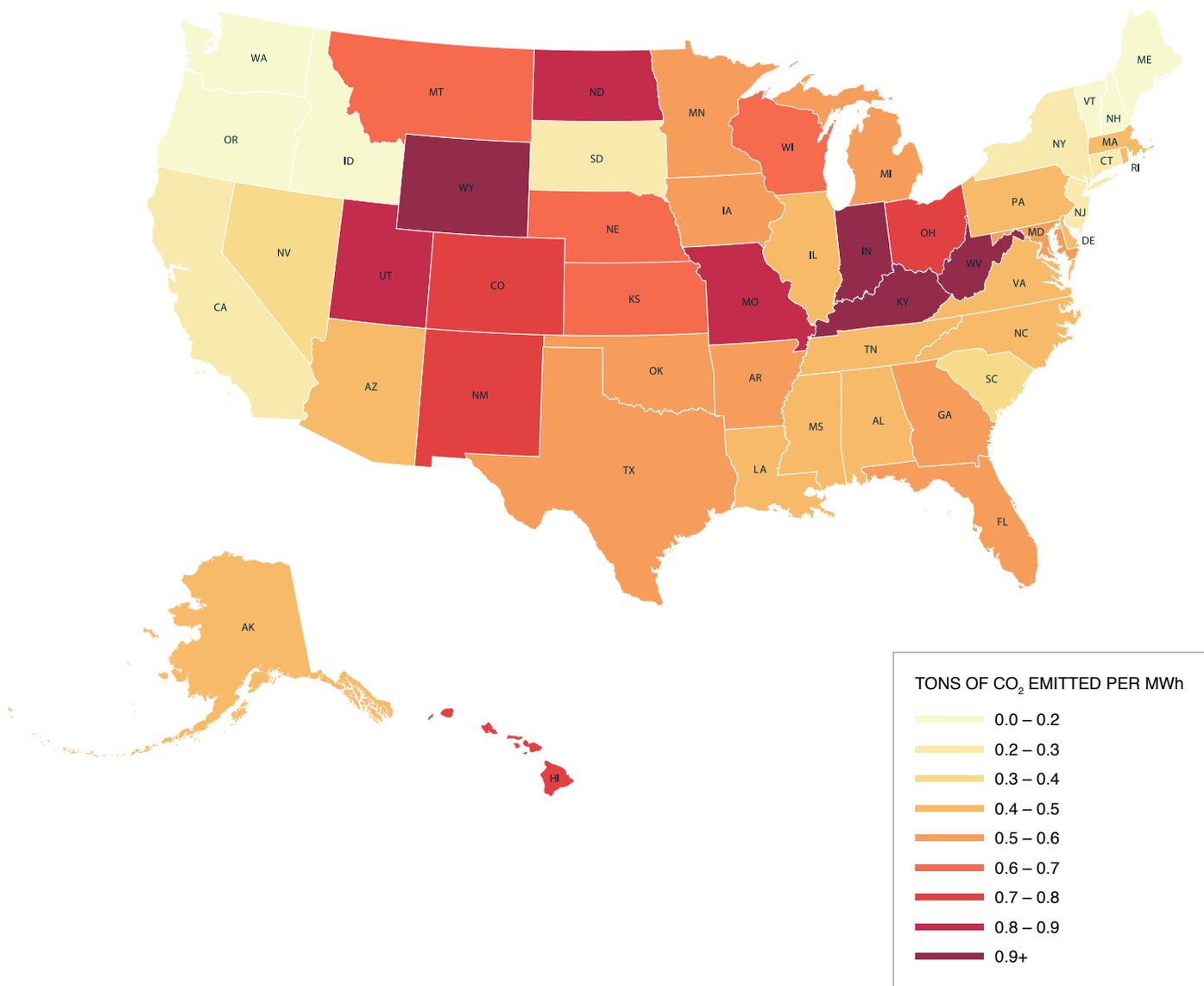
By reducing greenhouse gas emissions from the electricity sector, states could avoid hundreds of billions of dollars in climate damages in just a few years. Reducing emissions from the electricity sector in every state by 5% annually from 2015 through 2030 would equal \$779 billion in avoided costs.<sup>12</sup> In Illinois alone, a policy to cut the state's emissions from electricity generation in half by 2025 could mean avoiding \$2.1 billion in climate damages in that year alone.<sup>13</sup>

Valuing climate effects can also serve as an important advocacy tool for groups supporting clean energy. Placing monetary values on the anticipated damages from greenhouse gas emissions can help advocates illustrate that the benefits to be gained from avoiding emissions through cleaner energy sources outweigh the costs of developing clean resources. Spending several million dollars to build cleaner generating technology in a state that already has fossil-fuel-fired generators may seem costly when viewed only in terms of start-up costs, but it really is a bargain when compared to the cost of climate damages that would be avoided. Examples of proceedings in which public interest groups have used and could apply such valuation to support cleaner generation mixes are discussed below in Sections 2 and 3.

<sup>12</sup> Using the Social Cost of Carbon in 2018 U.S. dollars for each year between 2015 and 2030.

<sup>13</sup> A reduction of 88.25 million metric tons of CO<sub>2</sub>e at the 2025 SCC of \$56 in 2018 dollars.

## The Carbon Intensity of U.S. Electricity Generation



## The Costs of Carbon Dioxide Emissions

Scientists predict that climate change will have, and in some cases already has had, severe adverse consequences for society. Such consequences include the spread of diseases, heat-related premature death, decreased food security, and coastal destruction. But damages caused by emissions of greenhouse gases are not reflected in the price of fossil fuels, creating what economists call “externalities.” Negative externalities are costs that are borne by people other than the buyer and seller in a transaction. In other words, neither consumers buying electricity nor fossil-fuel plants selling electricity fully bear the costs of climate change like premature mortality and coastal property destruction. Adding a price for greenhouse gas damages to the baseline price of electricity would require consumers and producers to consider these externalities when they decide how much fossil-fuel generated electricity to buy or to produce. In other words, using a dollar amount to capture the climate effects of greenhouse gas emissions enables market participants to account for anticipated climate effects that would otherwise be ignored.

## The Social Cost of Carbon

**The Social Cost of Carbon is a metric designed to monetize climate damages, representing the economic cost of carbon dioxide emissions.** Simply, the Social Cost of Carbon is a monetary estimate of the damage done by each metric ton of carbon dioxide<sup>14</sup> that is released into the air. The Social Cost of Carbon can be used to evaluate policies and guide decisions that affect greenhouse gas emissions.

### The Interagency Working Group (IWG) Estimates

The federal government's Interagency Working Group on the Social Cost of Greenhouse Gases (IWG), which operated from 2009-2017, remains the best available source for Social Cost of Carbon estimates. The IWG developed its estimates using peer-reviewed science and economics from the three leading models of damages from climate change, valuing the stream of expected future damages from each ton of carbon dioxide emissions under different discount rate and risk scenarios. The IWG's methodology, and why its estimates are the best available values for the SCC, are discussed in more detail in the Institute for Policy Integrity's report *The Social Cost of Greenhouse Gases and State Policy*.<sup>15</sup>

Table 3 is from the IWG's 2016 Technical Support Document and shows the Social Cost of Carbon estimates, in 2018 dollars,<sup>16</sup> at five-year intervals. There are also IWG estimates for the Social Cost of Methane and the Social Cost of Nitrous Oxide.<sup>17</sup>

**Table 3: Social Cost of Carbon (in 2018 dollars per metric ton of CO<sub>2</sub>)<sup>18</sup>**

Year of Emission	Average estimate at 5% discount rate	IWG Central Estimate: Average estimate at 3% discount rate	Average estimate at 2.5% discount rate	High Impact Estimate: 95th percentile estimate at 3% discount rate
2020	\$14	<b>\$51</b>	\$74	\$152
2025	\$17	<b>\$56</b>	\$82	\$170
2030	\$19	<b>\$61</b>	\$88	\$186
2035	\$23	<b>\$68</b>	\$94	\$207
2040	\$26	<b>\$74</b>	\$101	\$225
2045	\$29	<b>\$79</b>	\$107	\$242
2050	\$32	<b>\$85</b>	\$114	\$260

<sup>14</sup> Note that a metric ton (2,204 pounds, also known as the tonne) is slightly different from both a short ton (2,000 pounds) and a long ton (2,240 pounds). There are many ways to conceptualize a metric ton (2,204 pounds) of carbon dioxide. A metric ton of carbon dioxide is what is how much a car emits after 2,397 miles or about 15% of one home's electricity use for a year. See U.S. EPA, EPA Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> (last visited Mar. 11, 2019).

<sup>15</sup> ILIANA PAUL, PETER HOWARD & JASON SCHWARTZ, INST. FOR POL'Y INTEGRITY, *THE SOCIAL COST OF GREENHOUSE GASES AND STATE POLICY: A FREQUENTLY ASKED QUESTIONS GUIDE* (2017), [https://policyintegrity.org/files/publications/SCC\\_State\\_Guidance.pdf](https://policyintegrity.org/files/publications/SCC_State_Guidance.pdf) [hereinafter POLICY INTEGRITY, SOCIAL COST OF GHGS IN STATE POLICY FAQ].

<sup>16</sup> Inflated from 2007 dollars using the Bureau of Labor CPI Calculator, available at <https://data.bls.gov/cgi-bin/cpicalc.pl>.

<sup>17</sup> INTERAGENCY WORKING GRP. ON SOCIAL COST OF GREENHOUSE GASES, *TECHNICAL SUPPORT DOCUMENT: TECHNICAL UPDATE OF THE SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12,866*, at 4 (2016), [https://www.obamawhitehouse.gov/sites/default/files/omb/inforeg/scc\\_tsd\\_final\\_clean\\_8\\_26\\_16.pdf](https://www.obamawhitehouse.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf).

<sup>18</sup> *Id.*

Note that the value of the Social Cost of Carbon increases over time. This is because the further into the future greenhouse gases are emitted, the greater the damages they will cause due to the effects of greenhouse gas accumulation and the build-up of stress on both the climate and economic systems. Therefore, it is important to calculate the full stream of climate effects—in other words, to take into consideration the emissions from every year of a policy—so that these increasing damages are reflected. For this reason, decisionmakers should calculate a full stream of future effects. This means they must account for every year a policy is expected to be in effect, rather than choosing only one year for analysis.

Decisionmakers should also consider which discount rate is most appropriate for their purposes. The IWG produced Social Cost of Carbon estimates based on different discount rates, which represent different relative valuations of resources in the future versus resources today. According to the IWG's 2010 Technical Support Document, the 3-percent discount rate estimate is considered the central estimate because it uses the central (i.e., middle) discount rate and is based on an average or mean, rather than worse-than-expected, climate outcome. The use of this central discount rate is supported by surveys of experts.<sup>19</sup>

The discount rate is one of the most important inputs in models of climate damages, with plausible assumptions easily leading to differences of an order of magnitude in the Social Cost of Carbon. The climate impacts of present emissions will unfold over hundreds of years. When used over very long periods of time, discounting penalizes future generations heavily due to compounding effects. For example, at a rate of 1 percent, \$1 million 300 years in the future equals over \$50,000 today, but at 5 percent it equals less than 50 cents.<sup>20</sup> The discount rate changed by a factor of five, whereas the discounted value changed by more than five orders of magnitude. Depending on the link between climate risk and economic growth risk, even a rate of 1 percent may be too high.<sup>21</sup> Uncertainty around the correct discount rate pushes the rate lower still.<sup>22</sup>

Finally, despite remaining the best available estimates, decisionmakers should recognize that the IWG's Social Cost of Carbon is really a lower bound. Many significant climate impacts identified by the Intergovernmental Panel on Climate Change are difficult to quantify and so have been omitted from the IWG estimates. Effects such as increased fire risk, slower economic growth, and large-scale migration are all unaccounted for, despite their potential to cause large economic losses. So, policymakers should account for these omissions by treating the Social Cost of Carbon figures presented within this report as underestimates.<sup>23</sup>

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<sup>19</sup> E.g., PETER HOWARD & DEREK SYLVAN, INST. FOR POL'Y INTEGRITY, EXPERT CONSENSUS ON THE ECONOMICS OF CLIMATE CHANGE (2015), <https://policyintegrity.org/files/publications/ExpertConsensusReport.pdf>; Moritz Drupp et al., *Discounting Disentangled: An Expert Survey on the Determinants of the Long-Term Social Discount Rate* (London Sch. of Econ. & Political Sci., Working Paper No. 195, 2015), <http://piketty.pse.ens.fr/files/DruppFreeman2015.pdf> (finding consensus on social discount rates between 1–3%).

<sup>20</sup> Dallas Burtraw & Thomas Sterner, *Climate Change Abatement: Not "Stern" Enough?*, Resources for the Future Policy Commentary Series (Apr. 4, 2009), <https://www.resourcesmag.org/common-resources/climate-change-abatement-not-quotsternquot-enough>.

<sup>21</sup> See Robert B. Litterman, *What Is the Right Price for Carbon Emissions?*, REGULATION, Summer 2013, at 41, <http://www.cato.org/sites/cato.org/files/serials/files/regulation/2013/6/regulation-v36n2-1-1.pdf> ("If climate risk dominates economic growth risk because there are enough potential scenarios with catastrophic damages, then the appropriate discount rate for emissions investments is lower than the risk-free rate and the current price of carbon dioxide emissions should be higher. In those scenarios, the "beta" of climate risk is a large negative value and emissions mitigation investments provide insurance benefits. If, on the other hand, growth risk is always dominant because catastrophic damages are essentially impossible and minor climate damages are more likely to occur when growth is strong, times are good, and marginal utility is low, then the "beta" of climate risk is positive, the discount rate should be higher than the risk-free rate, and the price of carbon dioxide emissions should be lower.").

<sup>22</sup> See POLICY INTEGRITY, SOCIAL COST OF GHGS IN STATE POLICY FAQ, *supra* note 15, at 23.

<sup>23</sup> See INST. FOR POL'Y INTEGRITY, A LOWER BOUND: WHY THE SOCIAL COST OF CARBON DOES NOT CAPTURE CRITICAL CLIMATE DAMAGES AND WHAT THAT MEANS FOR POLICYMAKERS (2019), [https://policyintegrity.org/files/publications/Lower\\_Bound\\_Issue\\_Brief.pdf](https://policyintegrity.org/files/publications/Lower_Bound_Issue_Brief.pdf).

# Why and How States Should Value Climate Damages

## *Why States Should Value Climate Damages*

As noted above, valuing climate damages is a means of internalizing externalities. The Social Cost of Carbon in particular provides a monetary value for the cost of emissions (or the benefit of reductions) that will result from a particular decision. Without considering the cost of these emissions, a decisionmaker is faced with insufficient information and may struggle to make a policy choice that maximizes net social welfare. The economic literature supports monetizing climate effects because monetization helps put the impact of climate damages in context.

In addition, valuing climate effects enables policymakers to take into account the effect of their decisions on society as a whole, as climate change is a global problem.<sup>24</sup> This consideration can encourage reciprocal actions from other actors, including other U.S. states and other countries. Monetizing climate damages also adds transparency to government decisionmaking, clarifying both to participants in the regulatory process and to the public generally how regulators are weighing climate effects.

## *How Climate Damage Valuations Can Be Used in State Electricity Policy*

State public utilities commissions have a significant opportunity to use a value for the cost of climate damages, such as the IWG Social Cost of Carbon, to better inform their decisionmaking. For example, regulators can use the Social Cost of Carbon to account for the climate effects associated with different generation mixes. Some states have begun using a price on emissions in their electricity proceedings to understand the scope of climate damages in electricity policy. Many other public utilities regulators are governed by statutes and regulations that would allow them to value these damages, but they have not yet taken steps to do so. By taking simple steps to incorporate a cost for climate effects into electricity proceedings, state regulators could help internalize these pollution externalities.

The ways in which state public utilities commissions can value climate effects differ depending on whether the state is vertically integrated or part of a wholesale electricity market.

In vertically integrated states, regulators could require utilities to consider climate damages in developing their integrated resource plans—proposals for meeting future demand that utilities are periodically required to submit. Regulators could insist that utilities measure the climate effects of their proposed resource mix and alternatives by using a monetary value for those effects. The regulators would then have more information by which to evaluate different resource mixes for approval.

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<sup>24</sup> Indeed, a global value of the SCC is the appropriate value for states to use in their policymaking. Not only is it best economic practice to estimate the global damages of U.S. greenhouse gas emissions in regulatory analyses and environmental impact statements, but no existing methodology for estimating a “domestic-only” value is reliable or complete. See POLICY INTEGRITY, SOCIAL COST OF GHGS IN STATE POLICY FAQ, *supra* note 15, at 5–7.

In states where utilities participate in the wholesale markets, regulators could develop a clean energy credit system that accounts for carbon emissions reductions by leveraging the cost of these emissions.<sup>25</sup> For example, utilities buying from fossil-fuel generators could be required to buy clean energy credits that are priced according to the pollution they emit, the proceeds of which could go toward funding low-emission technologies. States—most notably New York and Illinois—have taken this approach, and courts have upheld their Zero Emission Credit (ZEC) programs based on the Social Cost of Carbon.<sup>26</sup>

Alternatively, public utilities commissions in deregulated states could encourage their independent system operator (ISO) or regional transmission organization (RTO) to develop a carbon price that would be incorporated into wholesale rates.<sup>27</sup> In New York, for example, the ISO (NYISO) has been developing a carbon pricing proposal to use in the wholesale market.<sup>28</sup> An ISO/RTO carbon price would require FERC approval.<sup>29</sup>

This report demonstrates that many state public utilities regulators have statutory authority that would enable them to undertake the necessary steps to account for carbon emissions from electricity generation. Some public utilities regulators even have statutory or regulatory mandates to take these actions but have not yet done so. In the absence of nationwide carbon pricing, encouraging public utilities commissions to exercise their statutory authority has substantial promise to help internalize carbon pollution externalities into the electricity sector.

The following section delves further into existing applications of applying a value for climate damages in state electricity policy, while Section 3 examines the legal authority available to other states that are good candidates for using carbon pricing in electricity proceedings.<sup>30</sup>

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<sup>25</sup> See e.g., N.Y. Pub. Serv. Comm'n, Order Adopting a Clean Energy Standard, Case 15-E-0302, Aug. 1, 2016, <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={44C5D5B8-14C3-4F32-8399-F5487D6D8FE8}> [hereinafter N.Y. PSC CES Order]; Ill. S.B. 2814 (Future Energy Jobs Bill), 99th Gen. Assemb., Reg. Sess. (Ill. 2016), at 135–36, <http://www.ilga.gov/legislation/99/SB/PDF/09900SB2814enr.pdf>; N.J. Stat. Ann. § C.48:3-87.3.b(8) (West 2018).

<sup>26</sup> Elec. Power Supply Ass'n v. Star, 904 F.3d 518 (7th Cir. 2018) (upholding Illinois ZEC program against Federal Power Act preemption challenge), *cert. pending*, No. 18-868 (filed Jan. 8, 2019); Coalition for Competitive Elec. v. Zibelman, 906 F.3d 41 (2d Cir. 2018) (upholding New York ZEC program against Federal Power Act preemption challenge and dormant commerce clause challenge), *cert. pending sub nom.* Elec. Power Supply Ass'n v. Rhodes, No. 18-879 (filed Jan. 9, 2019). As of April 2019, petitions for certiorari are pending in both of these cases. If granted, the earliest the cases would be decided is 2020.

<sup>27</sup> See Bethany A. Davis Noll & Burcin Unel, *Markets, Externalities, and the Federal Power Act: The Federal Energy Regulatory Commission's Authority to Price Carbon Dioxide Emissions*, 27 N.Y.U. ENVTL. L.J. 1 (2019) (discussing FERC and RTO/ISO authority to incorporate carbon prices into wholesale markets).

<sup>28</sup> N.Y. INDEP. SYS. OPERATOR, CARBON PRICING DRAFT RECOMMENDATIONS: REPORT PREPARED FOR THE INTEGRATING PUBLIC POLICY TASK FORCE (2018), <https://www.nyiso.com/documents/20142/3911819/Carbon-Pricing-Proposal%20December%202018.pdf> [hereinafter NYISO, CARBON PRICING RECOMMENDATION] (reflecting recommendations from a working group, including the New York ISO and the New York Public Service Commission, on how to incorporate a carbon price into wholesale markets).

<sup>29</sup> See Davis Noll & Unel, *supra* note 27, at 11.

<sup>30</sup> This current analysis is limited to vertically integrated states and states covered by PJM where there is opportunity to use the SCC based on statutory and regulatory provisions.

## II. States Already Valuing Climate Damages

Electricity regulators in many states have recognized that valuing climate impacts is a powerful way to help them meaningfully distinguish between the risks and dangers of various proposed actions. In electricity proceedings, regulators have used values that reflect the costs of climate damages in resource planning and in programs for compensating generators that do not emit greenhouse gases. Where state electricity regulators decide to take externalities into account in their decisionmaking, they have frequently chosen to use the Social Cost of Carbon as the best metric for internalizing climate damages.

The types of proceedings in which states have begun to value climate damages fall into three main categories: (1) resource planning; (2) resource compensation; and (3) cost-benefit analysis frameworks.

In the resource planning proceedings, state regulators have directed utilities to use a cost for damages from carbon dioxide emissions in the utilities' integrated resource plans (IRPs) (also known as electricity resource plans (ERPs) in some states).<sup>31</sup> These plans are roadmaps to help utility companies to meet their anticipated future power demand needs while addressing the risks and complexities of their particular markets. Utility commissions, typically but not exclusively in vertically integrated states,<sup>32</sup> use the IRP process to review utilities' proposed development of particular resource mixes. If the IRP is approved, the utility can then incorporate the costs of developing these resources into the electricity rates charged to consumers.

A second type of proceeding in which states have begun to account for climate effects is resource compensation programs. State regulators use these programs to compensate low-carbon generators for their emissions reduction benefits. These programs go by different names for different types of generation resources and in different states, for example, ZEC programs that compensate nuclear generators,<sup>33</sup> and value of distributed energy resources (VDER) proceedings that compensate distributed energy resources (DERs). These programs share the common thread of paying money to electricity sources that reduce carbon dioxide pollution based on the value of the emissions they reduce.

The third type of proceeding where states have valued climate damages is in developing cost-benefit tests, which have then been used to decide which distributed energy resources to permit utilities to develop.<sup>34</sup> In the past, these cost-benefit analysis frameworks had focused primarily on direct expenditures by the utilities and ratepayers, without considering broader costs to the public. Recently, utilities commissions have begun adopting societal cost test frameworks that consider effects on the public, including climate damages as reflected by the Social Cost of Carbon.<sup>35</sup>

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<sup>31</sup> This report uses the phrase "IRP" when generally describing states' resource planning proceedings.

<sup>32</sup> New Hampshire and Vermont, both members of ISO New England, both use an IRP process, for example. A list of state IRP statutes can be found in RACHEL WILSON & BRUCE BIEWALD, REGULATORY ASSISTANCE PROJECT, BEST PRACTICES IN ELECTRIC UTILITY INTEGRATED RESOURCE PLANNING, at 34 (2013), <https://www.raponline.org/wp-content/uploads/2016/05/rapsynapse-wilsonbiewald-bestpractice-sinirp-2013-jun-21.pdf>.

<sup>33</sup> So far, use of the term "ZEC" has been limited to nuclear generation. Similar compensation schemes could apply to any non-emitting resource, though states might choose to use different terminology.

<sup>34</sup> See Denise A. Grab, *Balancing on the Grid Edge: Regulating for Economic Efficiency in the Wake of FERC v. EPSA*, 40 HARV. ENVTL. L. REV. F. 32, 35–37 (2016), available at <http://harvardelr.com/wp-content/uploads/2016/04/Grab.pdf>.

<sup>35</sup> See, e.g., N.Y. Pub. Serv. Comm'n, Order Establishing the Benefit Cost Analysis Framework, Case 14-M-0101 (Jan. 21, 2016) <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7bf8c835e1-edb5-47ff-bd78-73eb5b3b177a%7d> [hereinafter N.Y. PSC, CBA Order]; Cal. Pub. Util. Comm'n, Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources, Rulemaking 14-10-003, Proposed Decision Adopting Cost-Effectiveness Analysis Framework Policies for All Distributed Energy Resources (Mar. 25, 2019), <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M274/K960/274960797.PDF> [hereinafter Cal. PUC, Proposed Decision Adopting Cost-Effectiveness Analysis Framework].

Below are case studies of how states are currently valuing climate effects in electricity proceedings, and the statutory and regulatory landscape in which these actions evolved.<sup>36</sup> In some instances, there are clear directives for state regulators to take into account social and environmental costs of actions; in others, decisionmakers have a fair amount of flexibility and chose to incorporate the Social Cost of Carbon using their own discretion. Table 4 lists the states that currently value climate damages in electricity policy, details the types of proceedings in which they do so, and describes the monetary values they use.

Across these states, consideration of climate effects in electricity policy has significant potential to shape regulators’ decisionmaking by putting a dollar value on the effects of greenhouse gas emissions, which would otherwise be ignored in financial decisions about whether to develop or deploy a given energy resource.

**Table 4: States Valuing Climate Damages<sup>37</sup>**

State	Categories of Use			Climate Damages Value	
	Resource Planning	Resource Compensation	Cost-Benefit Analysis	Value(s) per Metric Ton CO <sub>2</sub> <sup>38</sup>	Notes on Values
California <sup>39</sup>			✓	IWG estimates <sup>40</sup>	Uses IWG’s “high impact” (95th percentile) and “average” values <sup>41</sup>
Colorado	✓ <sup>42</sup>			\$43/ton in 2022	Based on IWG Social Cost of Carbon, increases to \$69 in 2050 <sup>43</sup>
Illinois		✓		\$16.50/MWh (equivalent to \$23.33/ton) <sup>44</sup>	Based on IWG’s estimate, according to statute <sup>45</sup>
Maine <sup>46</sup>		✓		IWG central estimate <sup>47</sup>	

<sup>36</sup> Though we have attempted to be comprehensive, the cases discussed below may not cover every current application of valuing climate damages in electricity policy at the state level and are meant to illustrate how and where such an approach could be used. Also note that while this report focuses on state-level electricity regulation, the SCC may also be used in state climate policy. For example, the California Air Resources Board (CARB) has used the SCC in the state’s climate change plan, including the extension of its successful cap-and-trade scheme. See also POLICY INTEGRITY, SOCIAL COST OF GHGS IN STATE POLICY FAQ, *supra* note 15 (giving examples of how the SCC has been used in state policy or where it should be used in a number of state climate policies).

<sup>37</sup> For more details on the findings in this table see *infra* Appendix A.

<sup>38</sup> Unless otherwise noted.

<sup>39</sup> In March 2019, the California PUC issued a proposed decision to use the IWG’s estimates of the SCC—both the high-impact value and the average value—in Integrated Resource Planning proceedings. The proposed decision is awaiting final Commission approval.

<sup>40</sup> Cal. PUC, Proposed Decision Adopting Cost-Effectiveness Analysis Framework, *supra* note 35, at 36–40.

<sup>41</sup> *Id.* The IWG’s “high impact” scenario is meant to capture catastrophic and low probability damages.

<sup>42</sup> Colorado called for Xcel Energy to value climate damages in the sensitivity analysis accompanying its electricity resource plan. See *infra* Appendix A.

<sup>43</sup> Colo. Pub. Util. Comm’n, Decision No. C17-0316, In the Matter of the Application of Public Service Company of Colorado for Approval of its 2016 Electric Resource Plan, Proceeding No. 16A-0396E, at 30, [https://www.dora.state.co.us/pls/efi/efi\\_p2\\_v2\\_demo.show\\_document?p\\_dms\\_document\\_id=863402](https://www.dora.state.co.us/pls/efi/efi_p2_v2_demo.show_document?p_dms_document_id=863402) [hereinafter Colo. PUC, Xcel ERP Decision].

<sup>44</sup> Price per metric ton CO<sub>2</sub> is based on U.S. national weighted average CO<sub>2</sub> marginal emission rate. See EPA Greenhouse Gas Equivalencies Calculator, *supra* note 14.

<sup>45</sup> 20 ILL. COMP. STAT. ANN. 3855/1-75(d-5)(1)(B)(i) (West 2018) (Illinois’ zero emissions credit program).

<sup>46</sup> Maine’s PUC has used the SCC in a distributed solar valuation study, but has not yet issued orders using this metric. See ME. PUB. UTIL. COMM’N, MAINE DISTRIBUTED SOLAR VALUATION STUDY (2014), [https://www.maine.gov/mpuc/electricity/elect\\_generation/documents/MainePUCVOS-FullRevisedReport\\_4\\_15\\_15.pdf](https://www.maine.gov/mpuc/electricity/elect_generation/documents/MainePUCVOS-FullRevisedReport_4_15_15.pdf) [hereinafter MAINE DISTRIBUTED SOLAR VALUATION STUDY].

<sup>47</sup> *Id.* at 6, 35.

State	Categories of Use			Climate Damages Value	
	Resource Planning	Resource Compensation	Cost-Benefit Analysis	Value(s) per Metric Ton CO <sub>2</sub> <sup>38</sup>	Notes on Values
Maryland <sup>48</sup>			✓	IWG Social Cost of Carbon net of CO <sub>2</sub> allowance costs <sup>49</sup>	
Minnesota	✓			\$9.05 - \$43.06 per short ton of CO <sub>2</sub> e	Based on IWG Social Cost of Carbon, modified to account for a 100-year timeline <sup>50</sup>
Nevada	✓			IWG Social Cost of Carbon estimates	Based on IWG's 2016 3% estimate, adjusted for inflation <sup>51</sup>
New Jersey		✓		Lower than the Social Cost of Carbon	While the legislation places the value of ZECs at lower than the Social Cost of Carbon, it acknowledges that the IWG's Aug. 2016 Social Cost of Carbon "is an accepted measure of the cost of carbon emissions" <sup>52</sup>
New York		✓	✓	Based on IWG Social Cost of Carbon estimates	For cost-benefit analysis & ZECs, Social Cost of Carbon adjusted for RGGI <sup>53</sup> price. For VDER, the higher of either the Social Cost of Carbon adjusted for RGGI price or renewable energy credit price.
Washington	✓			IWG central estimate recommended <sup>54</sup>	"Comprehensive, peer-reviewed estimate" <sup>55</sup>

<sup>48</sup> Maryland's Public Service Commission has released a report studying the costs and benefits of distributed solar that uses the SCC but has not yet issued any orders using this metric. See MD. PUB. SERV. COMM'N, BENEFITS AND COSTS OF UTILITY SCALE AND BEHIND THE METER SOLAR RESOURCES IN MARYLAND (2018), <https://cleantechnica.com/files/2018/11/MDVoSReportFinal11-2-2018.pdf> [hereinafter BENEFITS AND COSTS OF UTILITY SCALE IN MARYLAND].

<sup>49</sup> *Id.* at 174.

<sup>50</sup> Minn. Pub. Util. Comm'n, In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minnesota Statute § 216B.2422, Docket No. E-999/CI-14-643, [https://mn.gov/oah/assets/2500-31888-environmental-socioeconomic-costs-carbon-report\\_tcm19-222628.pdf](https://mn.gov/oah/assets/2500-31888-environmental-socioeconomic-costs-carbon-report_tcm19-222628.pdf) [hereinafter Minn. PUC, Investigation of Environmental Costs].

<sup>51</sup> Nev. Pub. Util. Comm'n, Investigation and Rulemaking to Implement Senate Bill 65 of 2017, Docket No. 17-07020, Aug. 5, 2018, [http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS\\_2015\\_THRU\\_PRESENT/2017-7/32153.pdf](http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2017-7/32153.pdf) [hereinafter Nev. PUC, Rulemaking to Implement SB 65].

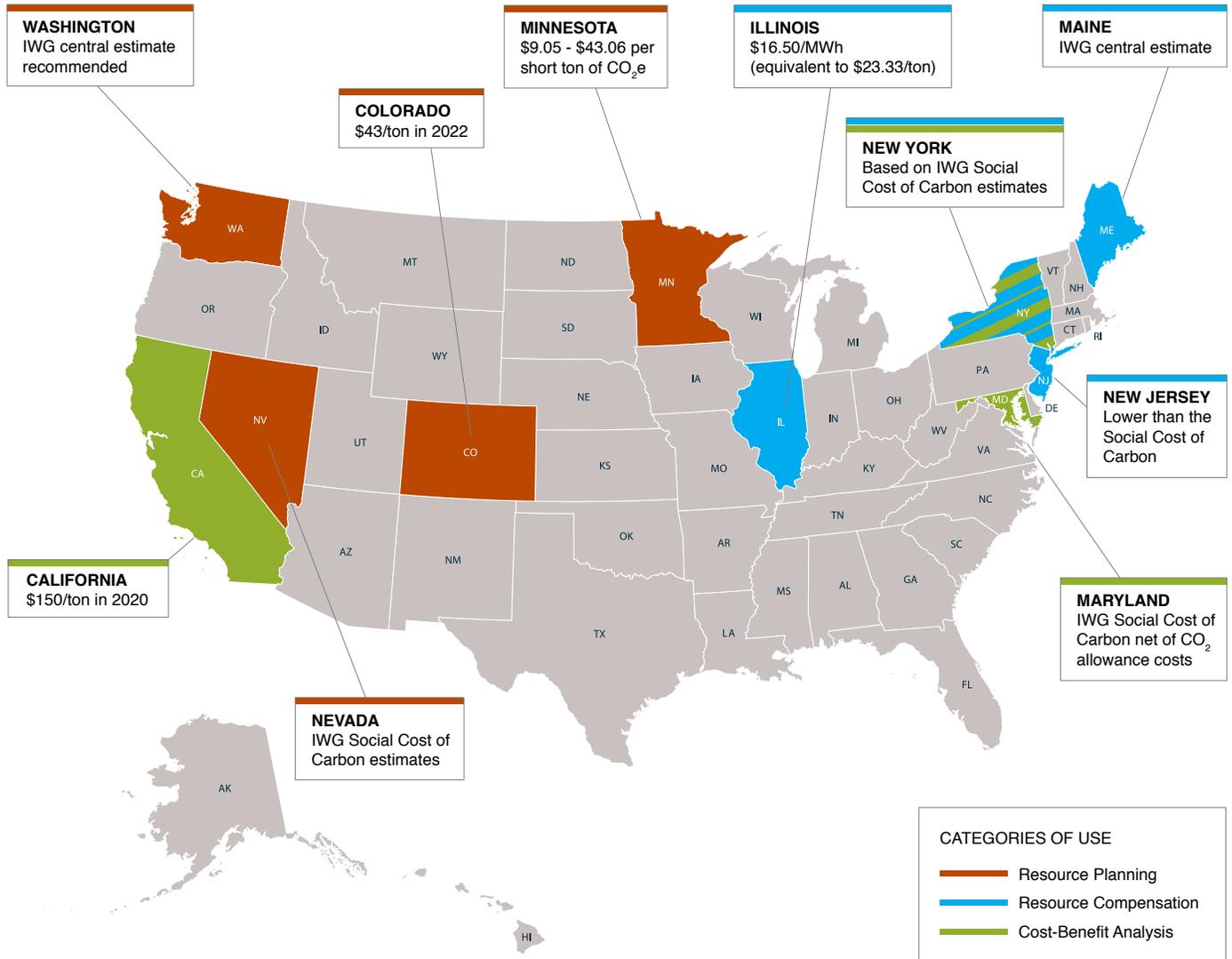
<sup>52</sup> N.J. STAT. ANN. § 48:3-87.3.b(8) (West 2018).

<sup>53</sup> Regional Greenhouse Gas Initiative.

<sup>54</sup> WASH. ADMIN. CODE § 480-100-238 (2018); e.g., Wash. Util. & Transp. Comm'n, 2017 Electric IRP Acknowledgement Letter Attachment, Pacific Power & Light Company 2017 Integrated Resource Plan, Docket No. UE-160353, at 11, [https://www.utc.wa.gov/\\_layouts/15/CasesPublicWebsite/GetDocument.aspx?docID=861&year=2016&docketNumber=160353](https://www.utc.wa.gov/_layouts/15/CasesPublicWebsite/GetDocument.aspx?docID=861&year=2016&docketNumber=160353) [hereinafter Wash. UTC, IRP Acknowledgement Letter Attachment].

<sup>55</sup> Wash. UTC, IRP Acknowledgement Letter Attachment, *supra* note 54.

## States Valuing Climate Damages



## States Valuing Climate Damages in Electricity Policy

The examples below discuss states that have taken steps to price climate damages in their electricity policies. The analysis includes states that have implemented programs, as well as states where steps have been taken toward valuing climate impacts, but the policies may not yet be in effect. Note that some states have a mandate to use analysis that includes pricing climate effects, while others have exercised discretion in doing so. Many of these states could advance their already strong efforts by expanding their practice of pricing climate damages to other types of proceedings.



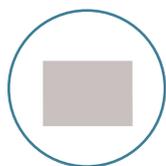
### California – Cost-Benefit Analysis

The California Public Utilities Commission (CPUC) has a mandate to include “a value for any costs and benefits to the environment,” when it is “calculating the cost-effectiveness of energy resources, including conservation and load management options.”<sup>56</sup> The Commission is currently considering applying the Social Cost of

<sup>56</sup> CAL. PUB. UTIL. CODE § 701.1(c) (West 2019).

Carbon to help implement this mandate in a proceeding to develop the state’s framework for evaluating DERs, such as residential solar panels, microgrids, and energy storage systems.<sup>57</sup>

In March 2019, the Commission issued a proposed decision in this proceeding, developing a Societal Cost Test for cost-effectiveness analysis of DERs. The proposed decision would require utilities to use the IWG’s Social Cost of Carbon estimates for a Societal Cost Test in IRP proceedings on an interim basis. In particular, the staff proposal recommends that the CPUC adopt both the catastrophic, high-impact (95th percentile) and average values of the Social Cost of Carbon, which would be \$123 and \$42 per metric ton of CO<sub>2</sub>e for 2020 emissions based on the 2016 IWG figures.<sup>58</sup> If the Commission finalizes this proposed decision, it would be a significant step forward to incorporate the costs of climate damages into electricity decisionmaking in California.



### Colorado – Resource Planning

Colorado Revised Statute § 40-2-123(1)(b) allows the Colorado Public Utilities Commission (Colorado PUC) to consider the social costs of greenhouse gas emissions. The statute says that “[t]he commission may give consideration to the likelihood of new environmental regulation and the risk of higher future costs associated with the emission of greenhouse gases such as carbon dioxide when it considers utility proposals to acquire resources.” While this is not a mandate for the CO PUC to use the Social Cost of Carbon, the current commission seems to have been receptive to the guidance. In addition, the Commission has a broad mandate to regulate utilities.<sup>59</sup>

In 2017 the Colorado PUC ordered the Public Service Company of Colorado (a.k.a. Xcel Energy) to take into account the damages from carbon dioxide emissions in its proposed Electric Resource Plan (ERP)—Colorado’s version of an IRP.<sup>60</sup> In particular, the regulators ordered Xcel “to run [an additional] carbon price sensitivity using the SCC,”<sup>61</sup> meaning that in addition to its presumed most-likely outcomes, the utility would need to model an alternative scenario using the Social Cost of Carbon to reflect carbon externality costs.

The Colorado PUC found that it had authority to require the utility to consider carbon externality costs under several statutes, most notably § 40-2-123(1)(b), C.R.S. and § 40-2-123(1)(a), C.R.S. Under the first statutory section, “The commission may give consideration to the likelihood of new environmental regulation and the risk of higher future costs associated with the emission of greenhouse gases such as carbon dioxide when it considers utility proposals to acquire resources.”<sup>62</sup> The CO PUC read this statute to allow it to consider two distinct categories of costs: “(1) the likelihood of new environmental regulation; and (2) the risk of higher future costs associated with the emission of greenhouse gas pollution.”<sup>63</sup> The second category allows the commission to consider environmental externalities like the Social Cost of Carbon.

The CO PUC also found that “including a proxy for carbon externality costs is consistent with the Commission’s consideration of “environmental protection” and “risk mitigation” when considering generation acquisitions, as directed in

<sup>57</sup> Cal. PUC, Proposed Decision Adopting Cost-Effectiveness Analysis Framework, *supra* note 35, at 36–40.

<sup>58</sup> *Id.* at 38.

<sup>59</sup> See Colo. PUC, Xcel ERP Decision, *supra* note 43, at 30 (“The Commission has ‘broad authority to regulate public utilities in this state.’” (citing *City of Montrose v. Pub. Utils. Comm’n*, 629 P.2d 619, 622 (Colo. 1981) and 28 COLO. CONST. Art. XXV)).

<sup>60</sup> See *id.*

<sup>61</sup> *Id.* at 30.

<sup>62</sup> COLO. REV. STAT. ANN. § 40-2-123(1)(b) (West 2018).

<sup>63</sup> Colo. PUC, Xcel ERP Decision, *supra* note 43, at 28–29.

§ 40-2-123(1)(a), C.R.S.<sup>64</sup> The CO PUC further found that “the SCC is a reasonable quantification of the potential cost of externalities for the purpose of model portfolios” in the ERP and therefore ordered the utility to use the IWG’s Social Cost of Carbon in one of its model run scenarios.<sup>65</sup>

In particular, the Colorado PUC recommended a climate damage value of \$43 per ton of CO<sub>2</sub>e in 2022, with that value increasing to \$69 per ton in 2050, which comes from the IWG’s 2016 Social Cost of Carbon estimates at the 3% discount rate. Specifically, the Commission notes that “[b]ased on the evidence in [the] Proceeding, the SCC serves as a modeling tool to ‘incorporate the social benefits of reducing [carbon] emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions’ and ‘is an estimate of the monetized damages associated with an incremental increase in carbon emissions in a given year.’”<sup>66</sup>

Colorado continues to explore formalizing a requirement to use the Social Cost of Carbon in all future ERPs. In February 2019, the Commission released a proposal to revise the state’s electricity rules, including on ERP, renewable energy standards, and net metering.<sup>67</sup> While the proposal does not currently include language formalizing use of the Social Cost of Carbon, a concurrence by one of the Commissioners specifically requests comments “proposing language or analytical approaches that could be used to place a ‘value’ on the cost of carbon for assessing the need for additional resources.”<sup>68</sup>

## Illinois – Resource Compensation



The Illinois state legislature passed a comprehensive energy bill, Future Energy Jobs Bill (SB 2814), in 2016. The bill also includes provisions for valuing the social benefits of emissions-free energy.<sup>69</sup> In particular, the bill establishes a ZEC program to compensate nuclear generators for the benefits provided by their emissions-free generation. To determine the value of the credits, the legislature found that “the Social Cost of Carbon is an appropriate valuation of the environmental benefits provided by zero emission facilities.”<sup>70</sup>

Illinois uses \$16.50/MWh for the Social Cost of Carbon value, which, according to the statute, is based on IWG’s 2016 3% estimate of \$42/metric ton, and adjusted for inflation as well as translated from cost per ton of emissions to cost per megawatt-hour of electricity.<sup>71</sup> The enabling statute, 20 Ill. Comp. Stat. Ann. 3855/1-75, defines the price for each ZEC as “in an amount that equals the Social Cost of Carbon,” subject to a price adjustment if the price exceeds a threshold.<sup>72</sup>

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<sup>64</sup> *Id.* at 29–30.

<sup>65</sup> *Id.* at 30.

<sup>66</sup> *Id.*

<sup>67</sup> Colo. Pub. Util. Comm’n, Proceeding No. 17M-0694E, In the Matter of the Commission’s Review of its Rules Governing Electric Resource Planning, Implementing Colorado’s Renewable Energy Standard, and Enabling New Technology Integration, [http://energystorage.org/system/files/resources/2018-1-31\\_co\\_puc\\_17m-0694e\\_erp\\_comments.pdf](http://energystorage.org/system/files/resources/2018-1-31_co_puc_17m-0694e_erp_comments.pdf).

<sup>68</sup> See Colo. Pub. Util. Comm’n, Proceeding No. 17M-0694E, Notice of Proposed Rulemaking, Dec. 6&10, 2018, at 93, [https://www.dora.state.co.us/pls/efi/efi\\_p2\\_v2\\_demo.show\\_document?p\\_dms\\_document\\_id=900519](https://www.dora.state.co.us/pls/efi/efi_p2_v2_demo.show_document?p_dms_document_id=900519) (statement of Comm’r Frances A. Koncila, concurring).

<sup>69</sup> Ill. S.B. 2814 (Future Energy Jobs Bill), 99th Gen. Assemb., Reg. Sess. (Ill. 2016), available at <http://www.ilga.gov/legislation/99/SB/PDF/09900SB2814enr.pdf>.

<sup>70</sup> *Id.* at Sec. 1.5(8).

<sup>71</sup> See *id.*

<sup>72</sup> *Id.*



## Maine – Resource Compensation

Maine enacted the Act to Support Solar Energy Development in Maine during its 2014 legislative session.<sup>73</sup> Section 1 of the Act states that it is “in the public interest to develop renewable energy resources, including solar energy, in a manner that protects and improves the health and well-being of the citizens and natural environment of the State while also providing economic benefits to communities, ratepayers and the overall economy of the State.”<sup>74</sup> Section 2 of the Act instructs the Maine Public Utilities Commission (Maine PUC) to determine the value of distributed solar energy generation in the State, evaluate implementation options, and deliver a report to the Legislature. Section 2 of this statute also calls for calculating “the societal value of the reduced environmental impacts of the energy.”<sup>75</sup> This statute requires the Maine PUC to assess how to maximize social welfare in its policy options. The Maine PUC addresses this requirement by weighing market costs and benefits with the monetized values of societal benefits in a cost-benefit analysis.<sup>76</sup>

In response to this mandate, the Maine PUC issued a report on the value of distributed solar.<sup>77</sup> This report uses the federal Social Cost of Carbon, as well as other monetized costs and benefits, to calculate the environmental attributes of distributed solar, for possible inclusion in a tariff or other incentive mechanism to compensate distributed solar resources.<sup>78</sup> Because carbon costs are already partially embedded in existing energy valuation as a result of carbon emissions caps under the Regional Greenhouse Gas Initiative (“RGGI”), the net Social Cost of Carbon is calculated by subtracting the embedded carbon allowance costs from the total SCC.<sup>79</sup> The report uses the federal Social Cost of Carbon, with a “central” 3-percent discount rate estimate.<sup>80</sup> The Maine Value of Distributed Solar study has been filed in a 2016 PUC docket on net metering, but its contents have not yet factored into any of the Commission’s final orders.



## Maryland – Cost-Benefit Analysis

In 2016, the Maryland Public Service Commission (Maryland PSC) initiated a proceeding known as “Public Conference 44” to modernize and “Transform Maryland’s Electric Grid.”<sup>81</sup> As part of that proceeding, in November 2018, the Commission released a report entitled *Benefits and Costs of Utility Scale and Behind the Meter Solar Resources in Maryland*.<sup>82</sup> The report serves as an independent analysis of the benefits and costs of solar in the state for evaluating resource development potential in the course of the grid modernization proceeding.

In discussing benefits of distributed solar resources, the report bases its calculation of the non-monetized social value of carbon dioxide on the 2016 IWG Social Cost of Carbon. The report modifies the 2016 IWG Social Cost of Carbon values to account for the portion of the social value of carbon dioxide reductions that is already “captured elsewhere in the avoided CO<sub>2</sub> emissions allowance cost,” specifically RGGI allowance costs.<sup>83</sup> The report calculates the “social ben-

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<sup>73</sup> Me. Pub. Law ch. 562 (Apr. 24, 2014) (codified at ME. REV. STAT. ANN. tit. 35-a, § 3471-3474 (2018)).

<sup>74</sup> *Id.* § 3472(1).

<sup>75</sup> *Id.* § 2(1).

<sup>76</sup> MAINE DISTRIBUTED SOLAR VALUATION STUDY, *supra* note 46, at 4.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.* at 6.

<sup>79</sup> *Id.* at 35.

<sup>80</sup> *Id.*

<sup>81</sup> See Md. Pub. Serv. Comm’n, Transforming Maryland’s Electric Grid (PC44), <https://www.psc.state.md.us/transforming-marylands-electric-grid-pc44> (last visited Mar. 11, 2019).

<sup>82</sup> BENEFITS AND COSTS OF UTILITY SCALE IN MARYLAND, *supra* note 48.

<sup>83</sup> *Id.* at 174.

efit of avoided CO<sub>2</sub> emissions” as the IWG Social Cost of Carbon “net of CO<sub>2</sub> allowance costs assumed in the energy modeling.”<sup>84</sup> Maryland PSC has offered the report as a reference in the ongoing proceeding but has not yet used the Social Cost of Carbon in a Commission order.



### Minnesota – Resource Planning

The Minnesota Public Utilities Commission (Minnesota PUC) is statutorily mandated to consider externalities for all proceedings. Minnesota Statute § 216B.2422 Subdivision(3)(a) directs the Minnesota PUC to “quantify and establish a range of environmental costs associated with each method of electricity generation.” Accordingly, utilities are directed to “use the values established by the commission in conjunction with other external factors, including socioeconomic costs, when evaluating and selecting resource options in all proceedings before the commission, including resource plan and certificate of need proceedings.” Given this directive, Minnesota has been considering a Social Cost of Carbon in its energy policy longer than many other states, albeit at a very low value until recently (\$0.44 to \$4.53 per short ton of CO<sub>2</sub>e).

In January 2018, the Minnesota PUC issued an order that finalized updated carbon cost estimates that utilities are required to use when planning for new projects.<sup>85</sup> In that order, the Commission designated the IWG approach as the “best framework in the record from which to establish a range of environmental costs associated with CO<sub>2</sub> emissions for purposes of Minnesota’s Environmental Cost Statute.”<sup>86</sup> The Commission explained, “The degree of rigor employed in the development of these cost values, and the timeliness of the underlying data and analyses, far exceeds any other framework in the record . . . . The modeling inputs and parameters relied on the most credible and widely used sources of information in the scientific literature.”<sup>87</sup>

The Minnesota PUC will now use a range of \$9.05 to \$43.06 per short ton of CO<sub>2</sub>e by 2020.<sup>88</sup> The Minnesota PUC based these values for damages from carbon dioxide emissions on the IWG’s approach, but it modified the estimates to use a 100-year timeline, rather than the IWG’s 300-year timeline. The Commission will use these values in evaluating and selecting resource options in all commission proceedings, including resource planning and other resource acquisition proceedings.



### Nevada – Resource Planning

Nevada also now orders utilities to use the Social Cost of Carbon in resource planning, based on a new legislative mandate and regulatory action by the Public Utilities Commission of Nevada (PUCN). Senate Bill 65 (SB 65), which passed during the state’s 2017 Legislative session, changes Nevada’s IRP statute to compel the Commission to give preference to supply resources that “[p]rovide the greatest economic and environmental benefits to the State . . . [and among other requirements] reduce customer exposure to the price volatility of fossil fuels and the potential costs of carbon.”<sup>89</sup> The PUCN opened a docket to explore how to carry out this directive.

<sup>84</sup> *Id.*

<sup>85</sup> Minn. Pub. Util. Comm’n, Order Updating Environmental Cost Values, In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minnesota Statutes Section 216B.2422, Subdivision 3, Jan. 3 2018, [https://mn.gov/oah/assets/2500-31888-environmental-socioeconomic-costs-carbon-report\\_tcm19-222628.pdf](https://mn.gov/oah/assets/2500-31888-environmental-socioeconomic-costs-carbon-report_tcm19-222628.pdf).

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> NEV. REV. STAT. § 704.746(a)&(e) (2017).

In August 2018, the PUCN finalized regulations to implement SB 65.<sup>90</sup> The new regulations specify that utilities must “estimate the level of environmental costs resulting from carbon dioxide emissions for that year and the social cost of carbon,” and select the preferred plan based on “the present worth of societal costs for each alternative plan.”<sup>91</sup> The IRP regulations specifically require use of the “best available science and economics” to estimate the “future global economic costs” from climate change, and support the use of estimates “released by the Interagency Working Group on Social Cost of Greenhouse Gases in August 2016.”<sup>92</sup> The PUCN adopted a global value for the Social Cost of Carbon, notwithstanding that the statute instructs the PUCN to consider the “economic and environmental benefits to the State” and the “customer exposure to the price volatility of fossil fuels and the potential costs of carbon.”<sup>93</sup>



## New York – Resource Compensation & Cost-Benefit Analysis

New York’s Public Service Commission (NY PSC) has begun using the Social Cost of Carbon to value climate damages in three different proceedings: (1) benefit-cost analysis for DERs under the state’s Reforming the Energy Vision (REV) proceeding; (2) resource compensation paid to nuclear generators via the ZEC program; and (3) resource compensation paid to distributed energy resources to reflect the environmental value they provide to the grid as part of the VDER program.

New York’s efforts toward valuing climate damages in electricity policy began in earnest following Governor Cuomo’s 2015 New York State Energy Plan, which set an ambitious clean energy target for the state: 50% of all electricity used in the state by 2030 should be generated by renewable energy sources.<sup>94</sup> In response to the governor’s plan,<sup>95</sup> the NY PSC began its REV proceeding to modernize the electricity grid and its Clean Energy Standard (CES) proceeding to compensate low carbon generation sources.

First, the NY PSC deemed the use of the Social Cost of Carbon appropriate for cost-benefit analysis under the REV proceeding.<sup>96</sup> Specifically, the NY PSC order prescribes valuing the marginal social costs from carbon dioxide emissions at “the difference between the [IWG]’s SCC value” and the forecasted carbon dioxide trading price in RGGI.<sup>97</sup> New York uses this cost-benefit analysis process to determine which DERs to develop under the REV program.

Meanwhile, the NY PSC was also developing its CES program to incentivize the development of sufficient low-carbon resources to meet the governor’s ambitious goals. The CES program created ZECs for nuclear generators based on the value of using emission-free nuclear power rather than carbon-emitting fossil fuel power.<sup>98</sup> The ZEC program determines that value based on the Social Cost of Carbon, specifically the portion of the Social Cost of Carbon that is not internal-

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<sup>90</sup> See Nev. PUC, Rulemaking to Implement SB 65, *supra* note 51.

<sup>91</sup> *Id.* Attach. 1, at 6.

<sup>92</sup> *Id.* Attach. 1, at 6–7.

<sup>93</sup> NEV. REV. STAT. § 704.746(5) (2017).

<sup>94</sup> N.Y. ST. ENERGY PLAN. BOARD, N.Y. STATE ENERGY PLAN: OVERVIEW 1, 2 (2015), <https://energyplan.ny.gov/-/media/nysenergyplan/2015-overview.pdf>.

<sup>95</sup> See N.Y. ENERGY LAW § 6-104(5)(b) (McKinney 2019) (requiring the NY PSC to “take reasonably consistent” actions following the governor’s plan).

<sup>96</sup> N.Y. PSC, CBA Order, *supra* note 35.

<sup>97</sup> *Id.* at 18. For a discussion of why this approach is appropriate see Institute for Policy Integrity, Comments on New York State’s Benefit Cost Analysis Handbooks (Sept. 26, 2016), [https://policyintegrity.org/documents/BCA\\_Handbook\\_Reply\\_Comments.pdf](https://policyintegrity.org/documents/BCA_Handbook_Reply_Comments.pdf).

<sup>98</sup> See N.Y. PSC CES Order, *supra* note 25, at 19–20, 145; see also N.Y. Pub. Serv. Comm’n, Staff White Paper on Clean Energy, Case No. 15-E-0302, at 30, Jan. 25, 2016, <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={930CE8E2-F2D8-404C-9E36-71A72123A89D}> [hereinafter “N.Y. PSC Staff White Paper”].

ized in the energy markets. In short, the ZEC program bases its compensation for nuclear generators on the value of the IWG’s Social Cost of Carbon, adjusted downward by the expected RGGI carbon dioxide trading price.<sup>99</sup> The value is initially set at \$32.47 per short ton CO<sub>2</sub>e, and adjusts over time to reflect the increasing IWG Social Cost of Carbon.<sup>100</sup>

The NY PSC also has an ongoing proceeding about how to compensate DERs.<sup>101</sup> Specifically, the PSC and other stakeholders are exploring using a value stack approach: compensating DERs for each attribute that brings value to the grid, like energy and distribution-level benefits.<sup>102</sup> This includes, when applicable, environmental benefits from reducing air pollutant emissions, referred to as the “E Value.” The working group exploring the development of the E Value has proposed a methodology for compensating DERs for their environmental benefits, including by using measurements based upon the Social Cost of Carbon. While this process to develop of a more precise E Value is ongoing, non-emitting DERs are compensated using the “Phase One” “Environmental Value, based on the higher of the [Renewable Energy Certificate] price . . . or the [IWG’s] Social Cost of Carbon.”<sup>103</sup>



### Washington – Resource Planning

Under state statutes and its own regulations, Washington State’s Utilities and Transportation Commission (UTC) must consider climate risks in its decisionmaking. Section (2)(b) of Washington Administrative Code § 480-100-238 directs utilities to undertake a “Lowest Cost Analysis.” The Commission’s integrated resource plan regulation says that an IRP is “a plan describing the mix of natural gas supply and conservation designated to meet current and future needs at the *lowest reasonable cost* to the utility and its ratepayers.”<sup>104</sup> The “Lowest Reasonable Cost” analysis must consider, among other things, “the cost of risks associated with environmental effects including emissions of carbon dioxide.”<sup>105</sup> Therefore, Washington State utilities are required to take environmental effects into consideration when drafting their IRPs, and the UTC is likewise allowed to raise such issues in its review.

In 2018, the UTC ordered the state’s three investor-owned utilities (IOUs) to use “a comprehensive, peer-reviewed estimate of the monetary cost of climate change damages, produced by a reputable organization” in their 2019 IRPs.<sup>106</sup> Specifically, the UTC’s 2018 IRP Acknowledgement Letters instructed the utilities to use the Social Cost of Carbon value

<sup>99</sup> See N.Y. PSC CES Order, *supra* note 25, at 131.

<sup>100</sup> *Id.* at 129–131, 150–152 (“Staff proposes that the Tranche 1 ZEC price be based upon the average April 2017 through March 2019 projected SCC as published by the USIWG in July 2015 (nominal \$42.87/short ton). The proposal then subtracts a fixed baseline portion of that cost that is already captured in the market revenues received by the eligible facilities due to the Regional Greenhouse Gas Initiative (RGGI) program based upon the average of the April 2017 through March 2019 forecast RGGI prices embedded in the CARIS Phase 1 report (nominal \$10.41/short ton). This yields a Tranche 1 net cost of carbon of \$32.47 (nominal \$/short ton), and a ZEC price of \$17.48 per MWh.”).

<sup>101</sup> See generally N.Y. Pub. Serv. Comm’n, In the Matter of the Value of Distributed Energy Resources, Case 15-E-0751, <http://www3.dps.ny.gov/W/PSCWeb.nsf/All/8ASF3592472A270C8525808800517BDD?OpenDocument> (last visited Mar. 11, 2019).

<sup>102</sup> For more information on the various attributes of DERs that should be valued see INST. FOR POL’Y INTEGRITY, HOW STATES CAN VALUE POLLUTION REDUCTIONS FROM DISTRIBUTED ENERGY RESOURCES (2018), [https://policyintegrity.org/files/publications/E\\_Value\\_Brief\\_-\\_v2.pdf](https://policyintegrity.org/files/publications/E_Value_Brief_-_v2.pdf); N.Y. Pub. Serv. Comm’n, Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters, Case 15-E-0751, at 15–16, Mar. 9, 2017, <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5B69628E-2928-44A9-B83E-65CEA7326428}>.

<sup>103</sup> *Id.*

<sup>104</sup> WASH. ADMIN. CODE § 480-90-238 (emphasis added).

<sup>105</sup> *Id.*

<sup>106</sup> *Id.* For an example of such a comprehensive, peer-reviewed estimate see Wash. UTC, IRP Acknowledgement Letter Attachment, *supra* note 54, at 11. This letter is one of three substantially identical letters to the state’s IOUs.

in their next IRP alternatives analysis<sup>107</sup> to determine the “lowest reasonable cost” resources as defined in the Washington Administrative Code provision on integrated resource planning, described above.<sup>108</sup> Furthermore, the Commission noted that Revised Washington Code 19.280.030(f) “requires utilities to prepare a long term plan that identifies the near term and future needs at the lowest reasonable cost and risk to the utility and its ratepayers.”<sup>109</sup> The UTC also relies on RCW 19.280.020(11), which says that, in order to determine the lowest reasonable cost, it must consider “the risks imposed on the utility and its ratepayers, public policies regarding resource preference adopted by Washington state or the federal government, and the cost of risks associated with environmental effects including emissions of carbon dioxide.”<sup>110</sup>

In instructing the utilities going forward, the UTC “suggest[ed] using the Interagency Working Group on Social Cost of Greenhouse Gases estimate with a three percent discount rate” for their primary analysis.<sup>111</sup> The UTC also instructed the utilities to “continue to model other higher and lower cost estimates to understand how the resource portfolio changes based on these costs.”<sup>112</sup>

In describing the range of cost estimates to use when modeling “other higher and lower cost estimates,” the UTC letters referenced guidance under an executive order that instructs state agencies to “use the Interagency Working Group on Social Cost of Greenhouse Gases estimate with a two and one-half percent discount rate.”<sup>113</sup> Though that guidance applies to procurement rather than utility resource planning,<sup>114</sup> the UTC’s letters relied on this guidance to suggest that the utilities use, as part of a range, the IWG Social Cost of Carbon estimates with a 2.5% discount rate, which would be higher than the “central” estimate with a 3% discount rate.

## State Action and Next Steps

As this discussion shows, a number of states are already valuing climate damages or using similar approaches to consider the externalities from greenhouse gas emissions in electricity policy. Nonetheless, these states could expand their efforts to value climate damages into other types of proceedings. In many ways, these states are not unique; as we discuss below, other states likely have the flexibility, based on existing statutes, to follow suit. In fact, some states may have a fairly clear mandate to consider environmental and social externalities in these policy arenas, yet so far have not executed their authorities to the fullest extent possible.

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<sup>107</sup> As of their most recent IRPs, the Washington utilities placed values on climate damages that were lower than the IWG SCC and reflected only existing regulatory costs. For example, in its 2017 IRP, Pacific Power & Light Company (a.k.a. PacifiCorp) placed a \$0 value on climate damages until 2026, and then valued these costs at only \$4.76. Hal Bernton, *Washington State Regulators Tell Utilities to Tally Social Costs of Carbon Emissions*, SEATTLE TIMES, May 9, 2018, at ¶ 11, <https://www.seattletimes.com/seattle-news/environment/washington-state-regulators-tell-utilities-to-tally-social-costs-of-carbon-emissions>.

<sup>108</sup> *Id.*

<sup>109</sup> Wash. UTC, IRP Acknowledgement Letter Attachment, *supra* note 54, at 11.

<sup>110</sup> WASH. REV. CODE ANN. § 19.280.020(11) (West 2018).

<sup>111</sup> Wash. UTC, IRP Acknowledgement Letter Attachment, *supra* note 54, at 11.

<sup>112</sup> *Id.*

<sup>113</sup> *Id.* at 11 & n.26.

<sup>114</sup> See WASH. DEP’T OF COMMERCE, THE SOCIAL COST OF CARBON, at 2 (2014), <http://www.commerce.wa.gov/wp-content/uploads/2015/11/Energy-EV-Planning-Social-Cost-of-Carbon-Sept-2014.pdf> (implementing Washington Executive Order No. 14-04: Washington Carbon Pollution Reduction and Clean Energy Action).

### III. Opportunity States

This section identifies opportunities to expand use of the pricing of climate effects in state electricity policy. The analysis highlights additional states that have statutory authority to value climate damages in electricity policy, as well as opportunities for states that have already begun using the Social Cost of Carbon to expand its application into other types of proceedings. A significant number of states that have not yet valued climate effects in electricity policy have explicit statutory or regulatory provisions that provide a basis for public interest advocates to persuade their policymakers to do so. Even in states where a statute does not specifically provide for consideration of externalities in electricity decisionmaking, state utility commissions may have discretion to incorporate climate effects as part of their broader legislative mandate.

Most states have statutory language authorizing or requiring utilities regulators to consider the public interest, economic efficiency, public health, or social welfare in regulating electric utilities. Advocates can and should rely on such statutory language to persuade utility regulators that pricing climate damages is the best way to achieve their statutory mandate. It is unquestionably in the public interest to internalize the costs of carbon emissions, reduce the climate risks associated with over-reliance on fuels that emit greenhouse gases, and protect a state's residents and environment from the effects of climate change. PUCs can fulfill their statutory obligation to promote and protect the public interest by using the Social Cost of Carbon to accurately price climate effects in resource planning and rate setting.<sup>115</sup>

This section examines three different categories of statutory language that can provide state utility commissions with authority to consider climate effects in designing electricity policy: (1) statutes that specifically address environmental externalities; (2) statutes that incorporate consideration of public health, public welfare, or the public interest; and (3) statutes providing general regulatory discretion to the utilities commission. The first two categories of statutes provide explicit authority to regulators to value climate damages, while the third category provides implicit authority to do so.

For each of these three categories of statutory authority, the section elaborates on the legal basis for pricing climate effects in electricity decisionmaking, including examples of particular states for illustration as appropriate. Note that some state statutes in the first two categories *mandate* that utility regulators consider environmental or public welfare effects. In these instances, not only would regulators be permitted to account for climate damages; they would be required to do so.

With respect to the third category, even without specific language addressing the environment or public health, regulators likely have implicit statutory authority to consider these key factors. Most states' utilities regulators are required to assess whether a utility's rates are "just and reasonable." Fully assessing whether electricity rates are just and reasonable can—and should—consider the full effects of those rates, including externalities like climate damages that may affect pricing. Based on this reasoning, utilities regulators with "just and reasonable" mandates have the authority to incorporate climate damages into their assessment.<sup>116</sup>

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<sup>115</sup> For an example of how advocates can use state statutory language to construct persuasive arguments for using the SCC, see Institute for Policy Integrity, Comment Letter to Virginia State Corporation Commission on Integrated Resource Planning (Sept. 21, 2018), [https://policyintegrity.org/documents/Virginia\\_IRP\\_Comments-final.pdf](https://policyintegrity.org/documents/Virginia_IRP_Comments-final.pdf) [hereinafter Policy Integrity, Virginia Comments].

<sup>116</sup> See Davis Noll & Unel, *supra* note 27, for an exploration of how the Federal Energy Regulatory Commission's "just and reasonable" mandate gives it authority to price carbon in wholesale electricity markets.

Furthermore, courts frequently give public utilities regulators broad latitude in setting electricity rates and policies.<sup>117</sup> Consequently, as long as consideration of greenhouse gas externalities is not prohibited explicitly in electricity decision-making, a public utility commission would likely have discretion to do so under state law.<sup>118</sup> Our analysis has found only two states where statutes or case law may limit regulators’ discretion to incorporate environmental externalities into electricity policy: Massachusetts and North Dakota.<sup>119</sup> Therefore, in the vast majority of states, electricity regulators would likely have the authority to account for climate damages in their decisionmaking.

Table 5, below, shows which categories of legal authority in each state could authorize its utilities regulators to value climate damages. States highlighted in yellow have particularly strong statutory authority to expand climate damage valuation in that jurisdiction, either for the first time in that state or to new applications in a state that is already applying greenhouse gas costs in some proceedings.

**Table 5. Categories of Legal Authority to Value Climate Damages in Electricity Policy by State<sup>120</sup>**

State	“Just and Reasonable” Standard	Public Interest Mandate	Environmental Cost Statute	State Already Values Climate Damages
Alabama	✓			
Alaska	✓			
Arizona	✓			
Arkansas	✓	✓		
California	✓	✓	✓	✓
Colorado	✓	✓	✓	✓
Connecticut	✓	✓		
Delaware	✓		✓	
Florida	✓	✓	✓	
Georgia	✓		✓	
Hawaii	✓	✓		
Idaho	✓			

<sup>117</sup> See Jonas J. Monast, *Maximizing Utility in Electric Utility Regulation*, 43 FLA. ST. U.L. REV. 135 (2015) (describing judicial responses to varied approaches PUCs can take in rate making); Brandon Hofmeister, *Roles for State Energy Regulators in Climate Change Mitigation*, 2 MICH. J. ENVTL. & ADMIN. L. 67 (2012) (same). *But see* Mass. Elec. Co. v. Dep’t of Pub. Util., 419 Mass. 239 (1994). *See also* Rudy Perkins, *Electricity Deregulation, Environmental Externalities and the Limitations of Price*, 39 B.C.L. REV. 993 (1998) (discussing efforts in the 1990s to price environmental externalities into electricity rates in California and Massachusetts).

<sup>118</sup> Note, however, that under some conditions, federal law might limit state discretion. FERC has previously ruled against a state’s ability to use environmental adders in excess of costs actually borne by the utility, finding that such charges would violate qualified facility pricing requirements under the Public Utility Regulatory Policies Act. *See* S. Cal. Edison Co., 71 F.E.R.C. ¶ 61,269, at 62,080 (Jun. 2, 1995).

<sup>119</sup> A 1994 Mass. Supreme Court decision found that the Department of Public Utilities (DPU) exceeded its authority in ordering a utility to consider environmental externalities in its resource plan filing. *Mass. Elec. Co. v. Dep’t of Pub. Util.*, 419 Mass. 239 (1994). As of 2018, the DPU explained that it would consider “environmental impacts within the boundaries set by current and statutory case law,” but noted that *Mass. Elec. Co.* limits its authority. *Mass. Dep’t of Pub. Util., Petition of The Berkshire Gas Co. for Approval of Agreements for Natural Gas Transportation & Supply Service*, Pursuant to G.L. c. 164, § 94A, at 34–35, D.P.U. No. 17-145 (May 31, 2018). A North Dakota statute prohibits the Public Service Commission from considering environmental externalities in rate setting or allowing utilities to use environmental externality values in resource planning. N.D. Cent. Code § 49-02-23 (2018).

<sup>120</sup> See *infra* Appendix A for the statutory authority underlying the findings in this table.

State	“Just and Reasonable” Standard	Public Interest Mandate	Environmental Cost Statute	State Already Values Climate Damages
Illinois	✓	✓	✓	✓
Indiana	✓			
Iowa	✓			
Kansas	✓			
Kentucky	✓			
Louisiana	✓			
Maine	✓	✓	✓	✓
Maryland			✓	✓
Massachusetts	CO <sub>2</sub> pricing authority limited			
Michigan	✓			
Minnesota		✓	✓	✓
Mississippi				
Missouri	✓	✓	✓	
Montana	✓		✓	
Nebraska			✓	
Nevada		✓	✓	✓
New Hampshire	✓	✓	✓	
New Jersey	✓	✓	✓	✓
New Mexico	✓	✓	✓	
New York	✓	✓	✓	✓
North Carolina	✓	✓		
North Dakota	CO <sub>2</sub> pricing prohibited			
Ohio	✓			
Oklahoma	✓			
Oregon	✓			
Pennsylvania		✓		
Rhode Island	✓	✓		
South Carolina	✓		✓	
South Dakota	✓			
Tennessee	✓			
Texas	✓	✓	✓	
Utah	✓	✓		
Vermont <sup>121</sup>	✓		✓	
Virginia <sup>122</sup>	✓	✓	✓	
Washington	✓	✓	✓	✓
West Virginia	✓			
Wisconsin	✓			
Wyoming	✓			

The remainder of this section discusses the three types of statutory authority in more detail, highlighting examples of some states with particularly clear language supporting the valuation of climate damages. All 50 states' statutory authority are discussed in detail in Appendix A.

Of course, statutory authority alone is not the only consideration of whether a state would make a good candidate for incorporating a value for climate damages into its decisionmaking. A state's existing policy landscape can affect precisely how to design a program to value carbon dioxide emissions. For example, if climate damages are already partially priced into electricity decisionmaking through a carbon trading market, electricity regulators should design their valuation program to account for the climate damages that are not internalized by the cap-and-trade program. Other factors, such as political landscape and institutional design, will also affect whether a program to price climate effects would be viable in a given state. A detailed examination of these factors is beyond the scope of this report, but it is important for regulators and advocates to remain aware of each state's particular policy and institutional landscapes when designing carbon valuation policies.

## Statutory Authority

Our research yielded three main areas of statutory authority that would allow states to use climate impact valuation: consideration of environmental externalities; mandate to consider the public health, public welfare or the public interest; and provisions that give general regulatory discretion to the utilities commission, which often materializes as the use of a just and reasonable standard. Below, we discuss each of these categories of legal hooks and give examples of states with particularly illustrative language.

### *Statutes Addressing Environmental Externalities*

Many state utility commissions have specific statutory authority or mandates to consider environmental externalities in electricity decisionmaking. However, even among states with such authority, not all have incorporated a price for climate damages into electricity regulation. States utility commissions with specific authority to consider environmental externalities are on especially strong footing to implement this approach. States with mandates to consider such externalities may even be vulnerable to legal challenge for failing to value climate damages.

Statutes of this type vary among states. Some of these statutory provisions cover greenhouse gas emissions specifically, while others address environmental harms more broadly. Some of the statutes give the regulators broad authority to consider environmental externalities across a variety of types of decisions, while other statutes provide more specific instruction about how and when to incorporate externalities.

Below are detailed examples of three states that have especially clear statutory language addressing environmental externalities in electricity decisionmaking, discussing how the states might apply those provisions to incorporate a value for climate damages. Table 5 and Appendix A catalogue the 20 states that have similar statutes addressing environmental externalities in their electricity policy.

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<sup>121</sup> Policy Integrity advocated for the use of the SCC in comments it submitted to the Vermont Public Utilities Commission on its Standard Offer Program. See Institute for Policy Integrity, Comment Letter to Vermont Public Utilities Commission on Standard Offer Program - PUC Case Number 17-5257-INV (2018), [https://policyintegrity.org/documents/Policy\\_Integrity\\_VT\\_Standard\\_Offer\\_comments.pdf](https://policyintegrity.org/documents/Policy_Integrity_VT_Standard_Offer_comments.pdf).

<sup>122</sup> Policy Integrity advocated for the use of the SCC in comments it submitted to the Virginia State Corporation Commission on the integrated resource plan (IRP) of the Appalachian Power Company. See Policy Integrity, Virginia Comments, *supra* note 115.



## Delaware

Tit. 26, § 1007 of the Delaware Code authorizes the Delaware Public Service Commission (PSC) to accept or reject the public utility's<sup>123</sup> IRP after making a determination that the utility's plan is "in the public interest."<sup>124</sup> In its proposal, the utility may consider "the economic and environmental value of . . . [r]esources that provide short- or long-term environmental benefits to the citizens of this State (such as renewable resources like wind and solar power)."<sup>125</sup>

In implementing the statute, the PSC has created regulations providing for strong transparency in the IRP process. The Commission requires the utility to disclose how it evaluates alternatives: the utility "shall provide a description of the options . . . including a description of the mechanism or process used for valuing each option. The Company shall describe the rationale behind its selection, including any modeling or methodology used as the basis for selection of the proposed IRP."<sup>126</sup>

A clear case for using the Social Cost of Carbon emerges from another IRP regulation, which indicates that the utility shall:

Include a current evaluation, detailing and giving consideration to environmental benefits<sup>127</sup> and externalities<sup>128</sup> associated with the utilization of specific methods of energy production. This evaluation need not be based on original research by the Company and may rely on published research and peer reviewed scientific and/or medical studies commonly available. To the extent that any reliable, relevant peer reviewed published research and scientific and/or medical studies commonly available include life cycle analyses encompassing energy extraction, transport, generation and/or use, the Company shall include such research and studies in its evaluation.<sup>129</sup>

This provision offers an opportunity for advocates to persuade the PSC that the Social Cost of Carbon would be the most appropriate mechanism for the utility to use in developing resource plans. As it has already expressed an interest in allowing the utility to use published, peer-reviewed research in its analysis, the PSC may recognize the Social Cost of Carbon as well grounded in peer-reviewed science and economics and widely regarded as the best available measure of the cost of damages from carbon dioxide pollution. The PSC's regulatory requirements seem like a natural fit for using the Social Cost of Carbon to evaluate the impacts of different resource portfolios.<sup>130</sup>

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<sup>123</sup> Delmarva Power & Light Co. (DP&L) currently has a monopoly in Delaware, and the statute names DP&L specifically throughout.

<sup>124</sup> DEL. CODE ANN. TIT. 26, § 1007 (2018).

<sup>125</sup> *Id.*

<sup>126</sup> 26 DEL. ADMIN. CODE 3010-7.0 (2019). But note that the company may request that the analysis information included in the IRP be confidential from the public if it includes trade secrets or other proprietary information. *See id.* at 3010-1.0.

<sup>127</sup> "Environmental Benefit" means "the positive environmental impact minus the negative environmental impact attained by specific actions including, but not limited to, energy generation and distribution, transmission service, conservation, customer-sited generation, DR, or DSM." *Id.* at 3010-2.0. "Environmental Impact" means "the result of an action, outcome or activity related to the IRP, on natural and physical resources including, but not limited to, wetlands, sea levels, fisheries, air quality, water quality and quantity, public health, climate impacts, land masses, and groundwater." *Id.*

<sup>128</sup> "Externalities" means "the social, health, environmental and/or welfare costs or benefits of energy which result from the production, delivery or reduction in use through efficiency improvements, and which are external to the transaction between the supplier (including the supplier of efficiency improvements) and the wholesale or retail customer. Externalities should be quantified and expressed in monetary terms where possible. Those externalities that cannot be quantified or expressed in monetary terms shall nonetheless be qualitatively considered." *Id.*

<sup>129</sup> *Id.* at 3010-6.0.

<sup>130</sup> Another critical aspect of the DE PSC IRP regulations is that the Commission is committed to rigorously analyzing and evaluating the proposed options in the IRP. To this end, "[t]he IRP shall not include any assumptions that externalities are adequately addressed by either the fact that the IRP meets the Renewable Energy Portfolio Standards, satisfies the Energy Efficiency Resources Standards, or that the generating units to be utilized comply with existing environmental regulations." *Id.*



## Georgia

Pursuant to § 46-3A-2 of the Georgia Code, the Georgia Public Service Commission (PSC) must make a finding that each electric utility resource plan “adequately demonstrates the economic, environmental, and other benefits to the state and to customers of the utility.”<sup>131</sup> The PSC has recently updated its guidance on the overall objective of utilities’ IRPs in a way that would support using the Social Cost of Carbon. The new guidance states that IRPs “should be based on current Commission policy concerning minimizing customer bills, minimizing overall rates and maximizing net societal benefit.”<sup>132</sup> For all forthcoming IRPs in Georgia, “[e]xternalities should be quantified and expressed in monetary terms where possible. Those externalities that cannot be quantified or expressed in monetary terms shall nonetheless be qualitatively considered in the societal cost test<sup>133</sup> to develop resource plans.”<sup>134</sup> The new IRP regulation specifically identifies “the environmental impacts of air pollutant emissions from power plants” as indirect costs to be quantified and included in the IRP.<sup>135</sup>

Georgia’s societal cost test requires the quantification and, where possible, monetization of environmental effects in the IRP process. The Social Cost of Carbon is a readily available tool that the PSC can and should apply in implementing its regulations.



## New Hampshire

New Hampshire’s Public Utilities Commission is required to consider the “environmental benefits” of many types of proposed utility investments before approving them. As in a number of other states, in deciding whether to approve a utility’s integrated resource plan, “the commission shall consider potential environmental, economic, and health-related impacts of each proposed option.”<sup>136</sup>

The Commission must also consider environmental and economic benefits in assessing whether to approve other types of utility investments. In deciding whether to authorize a company to enter into a power purchase agreement, the commission must determine that the proposal is “on balance, substantially consistent” with factors including “economic development and environmental benefits for New Hampshire.”<sup>137</sup> In deciding whether to approve utilities’ requests to recover investment expenditures on DERs, the Commission must consider “the environmental benefits of the investment to the state of New Hampshire.”<sup>138</sup> In other words, the Commission must consider the environmental benefits to the state as a whole, not just the monetary costs to utilities or consumers.

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<sup>131</sup> GA. CODE ANN. § 46-3A-2 (West 2019).

<sup>132</sup> GA. COMP. R. & REGS. 515-3-4-.05 (2019).

<sup>133</sup> The societal cost test is defined as “[a]n analytical test which identifies resources that provide net benefits considering economic, environmental and social factors. A resource option is cost-effective under the societal cost test when present value life cycle benefits exceed present value life cycle costs, evaluated at the utility discount rate. Total benefits equal the total avoided costs multiplied by the energy/capacity supplied by the resource option, plus any resource-specific benefits not otherwise reflected in the total avoided cost. Total costs equal the total installed cost of the resource option plus its operating costs plus any monetized and non-monetized costs attributable to the option.” *Id.* at 515-3-4-.02(38).

<sup>134</sup> *Id.* at 515-3-4-.02(21).

<sup>135</sup> *Id.* at 515-3-4-.02(24).

<sup>136</sup> N.H. REV. STAT. ANN. § 378:39 (2018).

<sup>137</sup> *Id.* § 362-F:9(II).

<sup>138</sup> *Id.* § 374-G:5.

These requirements for the Commission to consider environmental and economic benefits when evaluating a variety of utility investments provides a clear opportunity to use the Social Cost of Carbon to monetize the climate impacts of the utility’s proposed generation resources.

### *Statutes Incorporating Consideration of Public Health, Public Welfare, or the Public Interest*

Some states have statutes that require consideration of the public interest, health, or welfare. While these statutes do not specifically mention environmental externalities, the damages from climate change—such as property loss from rising sea levels or increased mortality—fall squarely within the public interest, health, or welfare prongs of many of these statutes. Putting a monetary value on climate effects could be an effective tool for these states’ regulators to use to assess whether proposals are consistent with the public interest, health, or welfare.

Below are detailed examples of states with particularly clear statutory language providing for consideration of the public interest, health, or welfare in their electricity policy, as well as a discussion of how they might apply carbon pricing. Table 5 and Appendix A provide an overview of the 21 states that have similar statutory language.



#### Florida

Florida Statute § 366.82 gives the Florida Public Service Commission (FL PSC) discretion to require “modifications or additions to a utility’s plans and programs at any time it is in the public interest . . .”<sup>139</sup> The legislature has found it in the public interest to “promote the development of renewable energy resources in this state” because “[r]enewable energy resources have the potential to help diversify fuel types . . . [,] minimize the volatility of fuel costs, . . . [and] improve environmental conditions.”<sup>140</sup> Advocates may be able to persuade the FL PSC that using the Social Cost of Carbon in rate setting or in resource planning is an excellent tool to help the regulators assess which regulations and plans are in the public interest.



#### Utah

Utah Code § 54-4a-6 mandates that the Utah Division of Public Utilities (Utah DPU) “shall act in the public interest.”<sup>141</sup> The Division must make rules consistent with the objective to “promote the safe, healthy, economic, efficient, and reliable operation of all public utilities” and “provide for just, reasonable, and adequate rates . . . , practices, and services of public utilities.”<sup>142</sup> “Just and reasonable” may include, but is not limited to the “economic impact of charges on each category of customer, and [] the well-being of the state of Utah and means of encouraging conservation of resources and energy.”<sup>143</sup> The governing statute also notes that it is the legislature’s intent that the Division regulate so as to promote “safe, healthy, economic, and efficient” electric utility operations.<sup>144</sup>

This statutory language provides an opportunity to advocate to the Utah DPU that the Social Cost of Carbon is the best available tool to compare between alternative regulations and resources plans when the Division’s mandate is to act in the public interest. Under these statutes, the Utah DPU could also use the Social Cost of Carbon to compensate clean energy resources for their low carbon emissions.

<sup>139</sup> FLA. STAT. ANN. § 366.82 (West 2018).

<sup>140</sup> FLA. STAT. ANN. § 366.91 (West 2018).

<sup>141</sup> UTAH CODE ANN. § 54-4a-6 (West 2018).

<sup>142</sup> *Id.*

<sup>143</sup> *Id.* § 54-3-1.

<sup>144</sup> *Id.* § 54-4a-6(1).

## *Statutes Providing General Regulatory Discretion to the Utilities Commission*

Nearly all states have some version of a statute providing general regulatory discretion to the utilities commission. The most common formulation of such a provision is a statute that instructs the state utility commission to set electricity rates that are “just and reasonable.” As indicated in Table 5 and Appendix A, 40 out of the 50 states have statutory language to this effect. Even though this language does not explicitly mention climate change, one can read the “just and reasonable” language to support the consideration of carbon pricing in state electricity policy.

Assessing whether electricity rates are “just and reasonable” takes place within a broader context of electricity markets, transactions, and resource development. A full examination of whether a given set of rates are “just and reasonable” should assess the full effects of those rates, including externalities that might otherwise escape consideration. Under this approach, regulators applying “just and reasonable” standards have the authority to include carbon pricing into their analyses.

In their recent article, energy policy experts Bethany Davis Noll and Burcin Unel explain in detail why FERC’s authority to ensure “just and reasonable rates” includes the authority to address externalities related to carbon dioxide emissions.<sup>145</sup> While their arguments pertain primarily to federal wholesale markets, much of their reasoning carries over to the state utilities commission context. As Davis Noll and Unel explain, failing to account for greenhouse gas emissions from different generation sources can place cleaner generation sources at an undue and potentially unjust disadvantage relative to dirtier sources. Additionally, internalizing the external costs of carbon dioxide emissions would help reflect the true cost of the generation supply and could therefore enable rates to provide a more reasonable incentive structure. Utilities commissions would have a strong basis for using their authority to set “just and reasonable” rates to incorporate considerations of climate damages in electricity policy.

Additionally, courts typically give public utilities commissions wide latitude in designing electricity rates and policies.<sup>146</sup> Therefore, as long as climate impact valuation is not prohibited in a state, a public utilities commission would likely have discretion under state law to incorporate externalities into rate setting.<sup>147</sup>

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<sup>145</sup> Davis Noll & Unel, *supra* note 27, at 38–44. Note that if FERC decides to price carbon, that would not diminish states’ authority on electricity or climate policy. *See id.* at 48–50.

<sup>146</sup> *See* Fed. Power Comm’n v. Hope Nat. Gas Co., 320 U.S. 591, 602 (1944) (“[H]e who would upset the rate order under the Act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences.”) (subsequently adopted by many state courts); *see also* sources cited *supra* note 117.

<sup>147</sup> *See supra* notes 118, 119 and accompanying text.

## IV. Conclusion

This report has explored opportunities for states to value climate damages from carbon dioxide emissions in electricity policy, both by discussing programs where states have applied this approach, and by assessing the potential opportunities for supporting additional states to do so. In states across the political spectrum, there is significant potential for generally taking emissions into account, and for specifically using the Social Cost of Carbon to objectively measure the damages caused by carbon dioxide emissions from electricity generation. The Social Cost of Carbon can be leveraged in resource planning, rate setting, and resource compensation to more accurately reflect the true costs and benefits of different forms of generation. Approaching electricity regulation in this way moves states closer to electricity systems that maximize net benefits for their constituents and pave the way for a cleaner energy future.

# Appendix A

## State-By-State Guide

### Categories of Legal Authority to Value Climate Damages in Electricity Policy by State

Highlighted states either (1) have explicit statutory authority to consider environmental externalities and/or (2) have already valued climate damages, in some, but not all, of their state proceedings. Some states satisfy both of these criteria. These states present good opportunities for incorporating or further applying climate damage valuation.

State	“Just and Reasonable” Standard	Public Interest Mandate	Environmental Cost Statute	State Already Values Climate Damages
Alabama	✓			
Alaska	✓			
Arizona	✓			
Arkansas	✓	✓		
California	✓	✓	✓	✓
Colorado	✓	✓	✓	✓
Connecticut	✓	✓		
Delaware	✓		✓	
Florida	✓	✓	✓	
Georgia	✓		✓	
Hawaii	✓	✓		
Idaho	✓			
Illinois	✓	✓	✓	✓
Indiana	✓			
Iowa	✓			
Kansas	✓			
Kentucky	✓			
Louisiana	✓			
Maine	✓	✓	✓	✓
Maryland			✓	✓
Massachusetts	CO <sub>2</sub> pricing authority limited			
Michigan	✓			
Minnesota		✓	✓	✓
Mississippi				
Missouri	✓	✓	✓	
Montana	✓		✓	

State	“Just and Reasonable” Standard	Public Interest Mandate	Environmental Cost Statute	State Already Values Climate Damages
Nebraska			✓	
Nevada		✓	✓	✓
New Hampshire	✓	✓	✓	
New Jersey	✓	✓	✓	✓
New Mexico	✓	✓	✓	
New York	✓	✓	✓	✓
North Carolina	✓	✓		
North Dakota	CO <sub>2</sub> pricing prohibited			
Ohio	✓			
Oklahoma	✓			
Oregon	✓			
Pennsylvania		✓		
Rhode Island	✓	✓		
South Carolina	✓		✓	
South Dakota	✓			
Tennessee	✓			
Texas	✓	✓	✓	
Utah	✓	✓		
Vermont	✓		✓	
Virginia	✓	✓	✓	
Washington	✓	✓	✓	✓
West Virginia	✓			
Wisconsin	✓			
Wyoming	✓			

Alabama	
Political Landscape	<u>Alabama Public Service Commission</u> : Elected, all Republican
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>ALA. CODE § 37-1-80 (2018) – “The rates and charges for the services rendered and required shall be reasonable and just to both the utility and the public. Every utility shall be entitled to such just and reasonable rates as will enable it at all times to fully perform its duties to the public.”</li> </ul>



Alaska	
Political Landscape	<u>Regulatory Commission of Alaska</u> : Appointed, with Chair elected by RCA
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>ALASKA STAT. ANN. § 42.05.381 (West 2018) – “All rates demanded or received by a public utility, or by any two or more public utilities jointly, for a service furnished or to be furnished shall be just and reasonable.”</li> </ul>



Arizona	
Political Landscape	<u>Arizona Corporation Commission</u> : Elected, all Republican
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>ARIZ. REV. STAT. ANN. § 40-322(A)(1) (2019) – The Commission may “[a]scertain and set just and reasonable standards, classifications, regulations, practices, measurements or service to be furnished and followed by public service corporations . . .”</li> </ul>



Arkansas	
Political Landscape	<u>Arkansas Public Service Commission</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>ARK. CODE ANN. § 23-3-704(b)(1) (West 2018) – “In the event the Arkansas Public Service Commission finds and determines that the avoided cost rate is not necessary to encourage the appropriate amount of construction of qualifying facilities and that a rate less than the avoided cost rate is just and reasonable to the electric consumer of the electric utility, is in the public interest, and will not discriminate against qualifying facilities, the Arkansas Public Service Commission shall take all reasonable and appropriate steps to obtain a waiver of the avoided cost standard from the Federal Energy Regulatory Commission or any successor agency.</li> </ul> <p>(2) In addition, a determination of the avoided cost rate or rates for energy or capacity purchased by an electric utility shall:</p> <p>(A) Be just and reasonable to the electric consumer of the electric utility and in the public interest . . .”</p>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>See above</li> </ul>



## California



Political Landscape	California Public Utilities Commission: Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>CAL. PUB. UTIL. CODE § 451 (West 2019) – “All charges demanded or received by any public utility, or by any two or more public utilities, for any product or commodity furnished or to be furnished or any service rendered or to be rendered shall be just and reasonable. Every unjust or unreasonable charge demanded or received for such product or commodity or service is unlawful. Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary [<i>sic</i>] to promote the safety, health, comfort, and convenience of its patrons, employees, and the public. All rules made by public utility affecting or pertaining to its charges or service to the public shall be just and reasonable.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>CPUC is required to include benefits and costs to the environment in calculating the cost-effectiveness of energy resources. <ul style="list-style-type: none"> <li>CAL. PUB. UTIL. CODE § 701.1(c) (West 2019). – “In calculating the cost-effectiveness of energy resources, including conservation and load management options, the commission shall include, in addition to other ratepayer protection objectives, a value for any costs and benefits to the environment, including air quality.”</li> </ul> </li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>CAL. PUB. UTIL. CODE § 701.1(a) (West 2019) directs the Commission to “minimize the cost to society of the reliable energy services that are provided by natural gas and electricity, and to improve the environment” as well as “encourage the diversity of energy resources . . . .”</li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>CAL. PUB. UTIL. CODE § 454.53(a) (West 2019) – “It is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.”</li> <li>California has a mandatory renewables portfolio standard that requires 33 percent by 2020; 40 percent by 2024; 50 percent by 2026; 60 percent by 2030. <i>See</i> CAL. PUB. UTIL. CODE § 399.11 (West 2019); CAL. PUB. UTIL. CODE § 25740 (West 2019).</li> </ul>
	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>California Public Utilities Commission (CPUC) is determining its approach for evaluating distributed energy resources (DERs). On March 25, 2019, a CPUC administrative law judge issued a proposed decision, which, if adopted by the Commission, would require utilities to conduct a societal cost test to determine the cost-effectiveness of DERs in IRP proceedings on an interim basis. The ruling would require utilities to calculate the climate benefits of avoided carbon emissions by using the Interagency Working Group’s Social Cost of Carbon estimates. <ul style="list-style-type: none"> <li><i>See</i> Cal. Pub. Util. Comm’n, Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources, Rulemaking 14-10-003, Proposed Decision Adopting Cost-Effectiveness Analysis Framework Policies for All Distributed Energy Resources (Mar. 25, 2019), <a href="http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M274/K960/274960797.PDF">http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M274/K960/274960797.PDF</a>.</li> </ul> </li> </ul>

## Colorado



Political Landscape	Colorado Public Utilities Commission: Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>COLO. REV. STAT. ANN. § 40-3-101(2) (West 2018) – “Every public utility shall furnish, provide, and maintain such service, instrumentalities, equipment, and facilities as shall promote the safety, health, comfort, and convenience of its patrons, employees, and the public, and as shall in all respects be adequate, efficient, just, and reasonable.”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>See above.</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>Instructions for cost-benefit analysis of environmental effects in utility resource planning                             <ul style="list-style-type: none"> <li>COLO. REV. STAT. ANN. § 40-3-111-1.5(a) (West 2018) – “If the commission considers environmental effects when comparing the costs and benefits of potential utility resources, it shall also make findings and give due consideration to the effect that acquiring such resources will have on the state’s economy and employment, including, but not limited to, the effect on the mining, electric, natural gas, energy efficiency, and renewable resource industries.”</li> <li>COLO. REV. STAT. ANN. § 40-2-123(1)(b) – “The commission may give consideration to the likelihood of new environmental regulation and the risk of higher future costs associated with the emission of greenhouse gases such as carbon dioxide when it considers utility proposals to acquire resources.”</li> </ul> </li> </ul>
Other Considerations	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>Colorado’s Public Utilities Commission ordered Xcel Energy to use the federal Social Cost of Carbon to measure harms from carbon dioxide emissions in its 2016 Energy Resource Plan (ERP), which will guide utility investments through 2024. <i>See</i> Colo. Pub. Util. Comm’n, Decision No. C17-0316, In the Matter of the Application of Public Service Company of Colorado for Approval of its 2016 Electric Resource Plan, Proceeding No. 16A-0396E, <a href="https://www.xcelenergy.com/staticfiles/xe-responsive/Company/Rates%20%20Regulations/Resource%20Plans/16A-0396E-Phase-II-Decision.pdf">https://www.xcelenergy.com/staticfiles/xe-responsive/Company/Rates%20%20Regulations/Resource%20Plans/16A-0396E-Phase-II-Decision.pdf</a>.</li> <li>In February 2019, the Commission released proposals to overhaul the state’s electricity rules, including on electric resource planning, renewable energy standards, and net metering.<sup>148</sup> While there is no proposed rule on the Social Cost of Carbon, according to one Commissioner, there is still interest in contributions from commenters on incorporating the metric into the proposals. <i>See</i> Colo. Pub. Util. Comm’n, Proceeding No. 17M-0694E, Notice of Proposed Rulemaking, Dec. 6&amp;10, 2018, at 93, <a href="https://www.dora.state.co.us/pls/efi/efi_p2_v2_demo.show_document?p_dms_document_id=900519">https://www.dora.state.co.us/pls/efi/efi_p2_v2_demo.show_document?p_dms_document_id=900519</a>.</li> </ul>

Connecticut	
Political Landscape	<u>Connecticut Public Utilities Regulatory Authority</u> : Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>CONN. GEN. STAT. § 16-19(a) (West 2019) – Public Utilities Regulatory Authority may adjust rates that are “unreasonably discriminatory or more or less than just, reasonable and adequate to enable such company to provide properly for the public convenience, necessity and welfare.”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>There is no mandatory language implicating public interest, but the Public Utilities Regulatory Authority has authority to consider public “convenience, necessity, and welfare.” See above.</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI</li> </ul>



Delaware	
Political Landscape	<u>Delaware Public Service Commission</u> : Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>DEL. CODE ANN. tit. 26, § 311 (West 2019) – “If, after hearing, the Commission finds any existing or proposed rate unjust, unreasonable or unjustly discriminatory, or in any wise in violation of law, the Commission shall determine the just and reasonable rate to be charged or applied by the utility for the service in question, and shall fix the same by order to be served upon the utility.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>Utilities may consider environmental benefits in IRPs: <ul style="list-style-type: none"> <li>DEL. CODE ANN. tit. 26, § 1007(c)&amp;(d) (West 2019) – In developing the IRP, utilities “may consider the economic and environmental value of . . . [r]esources that provide short- or long term environmental benefits to the citizens of this State (such as renewable resources like wind and solar power).” Additionally, the IRP shall contain a request for proposals for construction of new generating sources that elicits and recognizes the value of, among other considerations, “long-term environmental benefits to the state” and that “promote fuel diversity.” DEL. CODE ANN. tit. 26, § 1007(c)(1)(B)(2)&amp;(5) (West 2019).</li> <li>CODE DEL. REGS 3010-2.0 – Utilities must “Include a current evaluation, detailing and giving consideration to environmental benefits and externalities associated with the utilization of specific methods of energy production. This evaluation need not be based on original research by the Company and may rely on published research and peer reviewed scientific and/or medical studies commonly available. To the extent that any reliable, relevant peer reviewed published research and scientific and/or medical studies commonly available include life cycle analyses encompassing energy extraction, transport, generation and/or use, the Company shall include such research and studies in its evaluation.”</li> </ul> </li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>



Florida	
Political Landscape	<u>Florida Public Service Commission</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>FLA. STAT. ANN. § 366.041(1) (West 2018) – “ In fixing the just, reasonable, and compensatory rates, charges, fares, tolls, or rentals to be observed and charged for service within the state by any and all public utilities under its jurisdiction, the commission is authorized to give consideration, among other things, to the efficiency, sufficiency, and adequacy of the facilities provided and the services rendered; the cost of providing such service and the value of such service to the public; the ability of the utility to improve such service and facilities; and energy conservation and the efficient use of alternative energy resources; provided that no public utility shall be denied a reasonable rate of return upon its rate base in any order entered pursuant to such proceedings.”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>See above.</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>The Commission must consider the costs and benefits of renewable energy in developing renewable energy goals <ul style="list-style-type: none"> <li>FLA. STAT. ANN. § 366.82(2)&amp;(3) (West 2018) – “The commission shall adopt appropriate goals for increasing the efficiency of energy consumption and increasing the development of demand-side renewable energy systems . . . . In establishing the goals, the commission shall take into consideration: (a) The costs and benefits to customers participating in the measure. (b) The costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions. (c) The need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems. (d) The costs imposed by state and federal regulations on the emission of greenhouse gases.”</li> <li>FLA. STAT. ANN. § 366.91. – The legislature has found it in the public interest to “promote the development of renewable energy resources in this state” because “[r]enewable energy resources have the potential to help diversify fuel types . . . [,] minimize the volatility of fuel costs, . . . [and] improve environmental conditions.”</li> </ul> </li> </ul>



Georgia	
Political Landscape	<u>Georgia Public Service Commission</u> : Elected, all Republican
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>GA. CODE ANN. § 46-2-23(a) (WEST 2018) – “The commission shall have exclusive power to determine what are just and reasonable rates and charges to be made by any person, firm, or corporation subject to its jurisdiction.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>GA. CODE ANN. § 46-3A-2(b)(3) (West 2018) – Utilities’ IRPs must “adequately demonstrate[] the economic, environmental, and other benefits to the state and to customers of the utility . . . .”</li> <li>GA. COMP. R. &amp; REGS. 515-3-02 (West 2018) – For all forthcoming IRPs in Georgia, “[e]xternalities should be quantified and expressed in monetary terms where possible. Those externalities that cannot be quantified or expressed in monetary terms shall nonetheless be qualitatively considered in the societal cost test to develop resource plans.” The new IRP regulation specifically identifies “the environmental impacts of air pollutant emissions from power plants” as indirect costs to be quantified and included in the IRP.</li> </ul>



Hawaii	
Political Landscape	Hawaii Public Utilities Commission: Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>HAW. REV. STAT. ANN. § 269-16(a) (West 2018) – All rates “shall be just and reasonable.”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>Use of non-fossil fuels are in the public interest               <ul style="list-style-type: none"> <li>HAW. REV. STAT. ANN. § 269-27.2 (West 2018) – “(a) The public utilities commission shall investigate and determine the extent to which electricity generated from nonfossil fuel sources is available to public utilities that supply electricity to the public, which electricity is in excess of that utilized or otherwise needed by the producers for their internal uses and which the producers are willing to make available to the electric public utilities. (b) The public utilities commission may direct public utilities that supply electricity to the public to arrange for the acquisition of and to acquire electricity generated from nonfossil fuel sources as is available from and the producers are willing and able to make available to the public utilities, and to employ and dispatch the nonfossil fuel generated electricity in a manner consistent with the availability thereof to maximize the reduction in consumption of fossil fuels in the generation of electricity to be provided to the public.” Under this provision, rates are to be “(1) Just and reasonable; (2) Not unduly prejudicial to the customers of the public utility; (3) Promotional of Hawaii’s long-term objective of energy self-sufficiency; (4) Encouraging to the maintenance or development of nonfossil fueled sources of electrical energy; and (5) In the overall best interest of the general public.” HAW. REV. STAT. ANN. § 269-27.2(d)(1)-(5) (West 2018).</li> </ul> </li> </ul>



Idaho	
Political Landscape	Idaho Public Utilities Commission: Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>IDAHO CODE ANN. § 61-301 (West 2018) – Public utility rates “shall be just and reasonable.”</li> </ul>



Illinois	
Political Landscape	<u>Illinois Commerce Commission</u> : Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>220 ILL. COMP. STAT. ANN. 5/9-101 (West 2018) – Utility rates “shall be just and reasonable.”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>No mandate, but invoked in the legislature’s intention provision: 220 ILL. COMP. STAT. ANN. 5/1-102 (West 2018) – “The General Assembly finds that the health, welfare and prosperity of all Illinois citizens require the provision of adequate, efficient, reliable, environmentally safe and least-cost public utility services at prices which accurately reflect the long-term cost of such services and which are equitable to all citizens.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>The legislature’s intent to regulate utilities includes accounting for environmental costs and benefits <ul style="list-style-type: none"> <li>220 ILL. COMP. STAT. ANN. 5/1-102 (West 2018) – “It is further declared that the goals and objectives of such regulation shall be to ensure [among other goals] . . . the protection of the environment from the adverse external costs of public utility services so that (i) environmental costs of proposed actions having a significant impact on the environment and the environmental impact of the alternatives are identified, documented and considered in the regulatory process; (ii) the prudently and reasonably incurred costs of environmental controls are recovered . . . .”</li> </ul> </li> </ul>
Other Considerations	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>The state legislature passed a comprehensive energy bill, which included provisions for valuing the social benefits of emissions-free energy. 20 ILL. COMP. STAT. ANN. 3855/1-75(d-5)(B) (West 2018).</li> <li>Joined the U.S. Climate Alliance. Illinois Executive Order 2019-06.</li> </ul>
	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM and MISO</li> </ul>



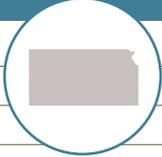
Indiana	
Political Landscape	<u>Indiana Utility Regulatory Commission</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>IND. CODE ANN. § 8-1-2-4 (West 2018) – All public utility rates “shall be reasonable and just.”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM and MISO</li> </ul>



Iowa	
Political Landscape	<u>Iowa Utilities Board</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>IOWA CODE ANN. § 476.8 (West 2018) – Utility rate charges “shall be reasonable and just.”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>



Kansas	
Political Landscape	<u>Kansas Corporation Commission</u> : Appointed
	Executive: Democrat
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• KAN. STAT. ANN. § 66-101b (West 2018) – “Every electric public utility governed by this act shall be required . . . to establish just and reasonable rates . . . .”</li> </ul>



Kentucky	
Political Landscape	<u>Kentucky Public Service Commission</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• KY. REV. STAT. ANN. § 278.030(1) (West 2018) – “Every utility may demand, collect and receive fair, just and reasonable rates for the services rendered . . . .”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>• Member of PJM</li> </ul>



Louisiana	
Political Landscape	<u>Louisiana Public Service Commission</u> : Elected: 2 Democrats, 3 Republicans
	Executive: Democrat
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• LA. REV. STAT. ANN. § 45:1163(C) (West 2018) – Commission is required to review “costs passed through to consumers” to “ensure” that they are “just and reasonable.”</li> <li>• LA. REV. STAT. ANN. § 45:1176 (West 2018) – In reviewing utilities’ contracts, “[t]he commission and any parochial or municipal body having similar powers in the fixing of just and reasonable rates charged or to be charged by public utilities, shall investigate the reasonableness and justness of all contracts, agreements and charges entered into or paid by such public utilities with or to other persons, whether affiliated with such public utilities or not.”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>• Member of MISO</li> </ul>



## Maine



Political Landscape	<u>Maine Public Utilities Commission</u> : Appointed
	Executive: Democrat
	Legislature: Slight Democrat majority
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>ME. REV. STAT. ANN. tit. 35-a, § 301(2) (2018) – “The rate, toll or charge, or any joint rate made, exacted, demanded or collected by any public utility for production, transmission, delivery or furnishing of electricity, gas, heat or water; for communications service; or for transportation of persons or property within this State or for any service rendered or to be rendered in connection with any public utility, shall be just and reasonable.”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>Development of renewables are in the public interest                             <ul style="list-style-type: none"> <li>ME. REV. STAT. ANN. tit. 35-a, § 3472 (2018) – “The Legislature finds that it is in the public interest to develop renewable energy resources, including solar energy, in a manner that protects and improves the health and well-being of the citizens and natural environment of the State while also providing economic benefits to communities, ratepayers and the overall economy of the State....”</li> </ul> </li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>In wind power statutes, legislature finds environmental benefits from wind and solar                             <ul style="list-style-type: none"> <li>ME. REV. STAT. ANN. tit. 35-a, § 3402 (2018) – “The Legislature finds and declares that the wind energy resources of the State constitute a valuable indigenous and renewable energy resource and that wind energy development, which is unique in its benefits to and impacts on the natural environment, makes a significant contribution to the general welfare of the citizens of the State . . .”</li> </ul> </li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>On February 28, 2019, Governor Mills announced that Maine joined the U.S. Climate Alliance. State of Maine Office of the Governor. Governor Mills Announces That Maine Has Joined Bipartisan U.S. Climate Alliance, (Feb. 28, 2019), <a href="https://www.maine.gov/governor/mills/news/governor-mills-announces-maine-has-joined-bipartisan-us-climate-alliance-2019-02-28">https://www.maine.gov/governor/mills/news/governor-mills-announces-maine-has-joined-bipartisan-us-climate-alliance-2019-02-28</a></li> </ul>
	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>The Maine PUC used the SCC in ME. PUB. UTIL. COMM’N, MAINE DISTRIBUTED SOLAR VALUATION STUDY (2014), <a href="https://www.maine.gov/mpuc/electricity/elect_generation/documents/MainePUCVOS-FullRevisedReport_4_15_15.pdf">https://www.maine.gov/mpuc/electricity/elect_generation/documents/MainePUCVOS-FullRevisedReport_4_15_15.pdf</a>.</li> </ul>
	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI</li> </ul>

Maryland	
Political Landscape	<u>Maryland Public Service Commission</u> : Appointed
	Executive: Republican
	Legislature: Majority Democrat
Statutory Landscape	Environmental/Social Costs <ul style="list-style-type: none"> <li>MD. CODE ANN., PUB. UTIL. COS. § 7-211 (West 2018) – In determining whether a program or service encourages and promotes the efficient use and conservation of energy, the Commission is directed to use a total resource cost test, that includes “participant nonenergy benefits” and “utility nonenergy benefits,” a societal cost test that includes “societal nonenergy benefits,” and the “impact on the environment.”</li> <li>MD. CODE ANN., PUB. UTIL. COS. § 7-704.1(c)(3)&amp;(e)(1) (West 2018) – For wind projects specifically: “The Commission may not approve an applicant’s proposed offshore wind project unless . . . the proposed offshore wind project demonstrates positive net economic, environmental, and health benefits to the State” based on a cost-benefit analysis that includes “an analysis of the anticipated environmental benefits, health benefits, and environmental impacts of the offshore wind project to the citizens of the State.”</li> </ul>
	Other Considerations <p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>The State must reduce statewide greenhouse gas emissions by 25% from 2006 levels by 2020, and 40% from 2006 levels by 2030. <i>See</i> MD. CODE ANN., ENVIR. §§ 2-1204, 2-1204.1 (West 2018).</li> </ul> <p>Actions to Date</p> <ul style="list-style-type: none"> <li>Maryland Public Service Commission used the 2016 IWG SCC in the report MD. PUB. SERV. COMM’N, BENEFITS AND COSTS OF UTILITY SCALE AND BEHIND THE METER SOLAR RESOURCES IN MARYLAND (2018), <a href="https://cleantechnica.com/files/2018/11/MDVoSRReportFinal11-2-2018.pdf">https://cleantechnica.com/files/2018/11/MDVoSRReportFinal11-2-2018.pdf</a>.</li> </ul> <p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>



Massachusetts	
Political Landscape	<u>Massachusetts Department of Public Utilities</u> : Appointed
	Executive: Republican
	Legislature: Majority Democrat
Statutory Landscape	Environmental/Social Costs <ul style="list-style-type: none"> <li>MASS. GEN. LAWS. ANN. ch. 25, § 22(b) (West 2018) – Energy Efficiency Council shall “seek to maximize net economic benefits through energy efficiency and load management resources and to achieve energy, capacity, climate and environmental goals through a sustained and integrated statewide energy efficiency effort . . .” In so doing, the council shall review, among other factors, the “climate and air quality benefits of efficiency and load management resources.”</li> <li>The Supreme Court of Massachusetts found that DPU exceeded its statutory authority in ordering the Massachusetts Electric Company to consider environmental externalities in its integrated resource management plan. <i>Mass. Elec. Co. v. Dep’t of Pub. Utilities</i>, 419 Mass. 239 (1994). However, the court “accept[ed] the department’s conclusion that the acceptability of a potential provider of electric power should be determined in part by the potential cost to the utility of that source’s likely pollution of the environment. [The court agreed] that it is also appropriate to consider that the increased costs that will result from the selection of another power source will be mitigated by long-term economic benefits in the form of lower costs to comply with increasingly stringent environmental regulations.” <i>Id.</i> at 246–47 (internal quotation omitted).</li> </ul>
	Other Considerations <p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>Massachusetts has committed to a 25% reduction in greenhouse gas emissions from all sectors of the economy below the 1990 baseline emission level in 2020 and at least an 80% reduction in 2050. <i>See</i> MASS. GEN. LAWS. ANN. ch. 21N, §§ 4(a), 5 (West 2018).</li> </ul> <p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI</li> <li>Member of ISO New England</li> </ul>



## Michigan



Political Landscape	<u>Michigan Public Service Commission: Appointed</u>
	Executive: Democrat
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>MICH. COMP. LAWS. ANN. § 460.54 (West 2018) – “[T]he commission shall thereupon be empowered, and it shall be its duty to make full investigation as to all matters so submitted and to fix and establish such reasonable maximum rates and charges, and prescribe such rules and conditions of service and make such determination and order relative thereto as shall be just and reasonable . . .”</li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>In 2019, Governor Gretchen Whitmer created a new Office of Climate and Energy to coordinate the state’s action on climate change and ensure that climate change is considered in new policies. She also signed an order to join the U.S. Climate Alliance, a group of governors who commit to upholding the principles of the Paris climate agreement. <i>See</i> Dan Gearino, <i>Michigan’s New Governor Puts Climate Change at Heart of Government</i>, INSIDE CLIMATE NEWS, Feb. 5, 2019, <a href="https://insideclimatenews.org/news/05022019/michigan-whitmer-office-climate-change-energy-filnt-water-policies-climate-alliance">https://insideclimatenews.org/news/05022019/michigan-whitmer-office-climate-change-energy-filnt-water-policies-climate-alliance</a>.</li> </ul>
	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of MISO</li> </ul>

## Minnesota



<p>Political Landscape</p>	<p><u>Minnesota Public Utilities Commission: Appointed</u>                  Executive: Democrat                  Legislature: Senate Majority Republican; House Majority Democrat</p>
<p>Statutory Landscape</p>	<p>Public Interest</p> <ul style="list-style-type: none"> <li>• PUC must determine environmental costs in context of renewable energy initiatives                         <ul style="list-style-type: none"> <li>• MINN. STAT. ANN. § 216B.2422 (West 2018) – “Subd. 3. Environmental costs. (a) The commission shall, to the extent practicable, quantify and establish a range of environmental costs associated with each method of electricity generation. A utility shall use the values established by the commission in conjunction with other external factors, including socioeconomic costs, when evaluating and selecting resource options in all proceedings before the commission, including resource plan and certificate of need proceedings.”</li> </ul> </li> </ul> <p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>• Mandate to consider environment impacts/benefits, goal of environmental remediation                         <ul style="list-style-type: none"> <li>• MINN. STAT. ANN. § 216C.09(a)(3) (West 2018) – A Minnesota utility commissioner shall “undertake a continuing assessment of trends in the consumption of all forms of energy and analyze the social, economic, and environmental consequences of these trends...”</li> <li>• Minn. R. 7843.0500 “Subp. 3... In issuing its findings of fact and conclusions, the commission shall consider the characteristics of the available resource options and of the proposed plan as a whole. Resource options and resource plans must be evaluated on their ability to: A. maintain or improve the adequacy and reliability of utility service; B. keep the customers’ bills and the utility’s rates as low as practicable, given regulatory and other constraints; C. minimize adverse socioeconomic effects and adverse effects upon the environment; D. enhance the utility’s ability to respond to changes in the financial, social, and technological factors affecting its operations; and E. limit the risk of adverse effects on the utility and its customers from financial, social, and technological factors that the utility cannot control.”</li> </ul> </li> </ul>
<p>Other Considerations</p>	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>• Minnesota has committed to reduce greenhouse gas emissions by 80% between 2005 and 2050, while supporting clean energy, energy efficiency, and supplementing other renewable energy standards in Minnesota. Interim goals were also set: a 15% reduction by 2015, and a 30% reduction by 2025. <i>See</i> MINN. STAT. ANN. § 216H.02 (West 2018).</li> <li>• Minnesota has mandated process for the state to develop policies to attain the greenhouse gas reduction goals specified in MINN. STAT. ANN. § 216H.02 as “at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050.” <i>See</i> MINN. STAT. ANN. § 216H.07 (West 2018).</li> <li>• On March 4, 2019, Governor Tim Walz and Lieutenant Governor Peggy Flanagan announced the “One Minnesota Path to Clean Energy,” a set of policy proposals that is designed to help Minnesota achieve the goal of 100 percent clean energy in the state’s electricity sector by 2050. Minnesota Department of Commerce. Walz, Flanagan propose plan to achieve 100 percent clean energy in Minnesota by 2050. (March 4, 2019).</li> </ul> <p>Actions to Date</p> <ul style="list-style-type: none"> <li>• Minnesota Public Utilities Commission issued an order that finalized carbon cost estimates that utilities are required to use when planning for new projects. <i>See</i> Minn. Pub. Util. Comm’n, In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minnesota Statute § 216B.2422, Docket No. E-999/CI-14-643, <a href="https://mn.gov/oah/assets/2500-31888-environmental-socioeconomic-costs-carbon-report_tcm19-222628.pdf">https://mn.gov/oah/assets/2500-31888-environmental-socioeconomic-costs-carbon-report_tcm19-222628.pdf</a>. The commission will use these values in evaluating and selecting resource options in all commission proceedings, including resource planning and other resource acquisition or diversification proceedings. <i>Id.</i></li> </ul> <p>Affiliations</p> <ul style="list-style-type: none"> <li>• Member of MISO</li> </ul>

## Mississippi

Political Landscape	<u>Mississippi Public Service Commission</u> : Elected: 2 Democrats, 1 Republican	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>No relevant language</li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of MISO</li> </ul>	

## Missouri

Political Landscape	<u>Missouri Public Service Commission</u> : Appointed	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>MO. ANN. STAT. § 393.130 (West 2018) – “1. Every gas corporation, every electrical corporation, every water corporation, and every sewer corporation shall furnish and provide such service instrumentalities and facilities as shall be safe and adequate and in all respects just and reasonable. All charges made or demanded by any such gas corporation, electrical corporation, water corporation or sewer corporation for gas, electricity, water, sewer or any service rendered or to be rendered shall be just and reasonable and not more than allowed by law or by order or decision of the commission.”</li> </ul> <p>Public Interest</p> <ul style="list-style-type: none"> <li>The PSC is mandated to order “reasonable improvements” to utilities operations in order to promote the “public interest,” including “public health.” <ul style="list-style-type: none"> <li>MO. ANN. STAT. § 393.140 (2) (West 2018) – “Investigate and ascertain, from time to time, the quality of gas or water supplied and sewer service furnished by persons and corporations, examine or investigate the methods employed by such persons and corporations in manufacturing, distributing and supplying gas or electricity for light, heat or power and in transmitting the same, and in supplying and distributing water for any purpose whatsoever, and in furnishing a sewer system, and have power to order such reasonable improvements as will best promote the public interest, preserve the public health and protect those using such gas, electricity, water, or sewer system.”</li> </ul> </li> </ul> <p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>IRPs must take environmental costs (\$) into account <ul style="list-style-type: none"> <li>MO. CODE REGS. ANN. tit. 4, § 240-22.060(2)(A)(2) (2018) – “These performance measures shall include . . . [p]resent worth of probable environmental costs”</li> <li>MO. CODE REGS. ANN. tit. 4, § 240-22.060(4) (2018) – “The analysis shall treat supply-side and demand-side resources on a logically-consistent and economically-equivalent basis, such that the same types or categories of costs, benefits, and risks shall be considered and such that these factors shall be quantified at a similar level of detail and precision for all resource types.”</li> </ul> </li> <li>MO. CODE REGS. ANN. tit. 4, § 240-20.094 (2018) – Societal cost tests for Demand-Side Programs and Demand-Side Programs Investment Mechanisms can always include consideration of “non-energy benefits” as part of cost-effectiveness assessment. <ul style="list-style-type: none"> <li>MO. CODE REGS. ANN. tit. 4, § 240-20.092 (II) (2018) – Non-Energy Benefits means— “1. Direct benefits to participants in utility demand side programs, including, but not limited to...increases to the comfort, health, and safety of participants and their families;... 3. Indirect benefits to society at large, including, but not limited to, job creation, economic development, energy security, public safety, reduced emissions and emission related health care costs, and other environmental benefits”</li> </ul> </li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of MISO</li> </ul>	

## Montana



Political Landscape	<p><u>Montana Public Service Commission</u>: Elected, all Republican</p>
	<p>Executive: Democrat</p>
	<p>Legislature: Majority Republican</p>
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• Commission has authority to determine what is “just and reasonable”                             <ul style="list-style-type: none"> <li>• MONT. CODE. ANN. § 69-3-301(1) (2017) – “Every public utility shall file with the commission, within a time fixed by the commission, schedules which shall be open to public inspection, showing all rates, tolls, and charges which it has established and which are in force at the time for any service performed by it within the state or for any service in connection therewith or performed by any public utility controlled or operated by it. Every public utility shall file with and as a part of such schedule all rules that in any manner affect the rates charged or to be charged for any service. When a schedule of joint rates or charges is or may be in force between two or more public utilities, such schedule shall in like manner be printed and filed with the commission.”</li> </ul> </li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>• The state’s renewable energy standard requires utilities to procure at least 15% of electrical energy from renewable sources and utilities are required to buy renewable energy credits to comply. MONT. CODE. ANN. § 69-3-2004 (2017).</li> <li>• MONT. CODE. ANN. § 69-3-2003 (2017) – “Renewable Energy Credit: a tradable certificate of proof of 1 megawatt hour of electricity generated by an eligible renewable resource that is tracked and verified by the commission and includes all of the environmental attributes associated with that 1 megawatt-hour unit of electricity production.”</li> <li>• MONT. CODE. ANN. § 69-3-2004 (2017) – lays out the above-referenced renewable energy standard.</li> <li>• MONT. CODE. ANN. § 69-3-2002 (2017) – includes legislative findings that “...(4) fuel diversity, economic, and environmental benefits from renewable energy production accrue to the public at large.”</li> <li>• MONT. ADMIN. R. 42.29.101 (2019) – Universal system benefits programs are public purpose programs for renewable resource projects that “including those [projects] that capture unique social and energy system benefits or provides transmission and distribution system benefits”.</li> <li>• MONT. ADMIN. R. 38.5.2001 (2019) – The state’s integrated least cost planning provision requires that “[t]he cost effectiveness of all resources should be determined with respect to long-term societal costs.”</li> </ul>
Other Considerations	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>• MONT. CODE. ANN. § 69-8-210(2) (2017) – Public utilities must offer customers the option of a product “composed of or supporting power from certified environmentally preferred resources that include but are not limited to wind, solar, geothermal, and biomass, subject to review and approval by the commission....”</li> </ul>
	<p>Affiliations</p> <ul style="list-style-type: none"> <li>• Member of MISO</li> </ul>

Nebraska	
Political Landscape	<u>Nebraska Power Review Board</u> : Appointed
	Executive: Republican
	Legislature: Nonpartisan, but majority affiliated with Republican Party
Statutory Landscape	Environmental/Social Costs <ul style="list-style-type: none"> <li>NEB. REV. STAT. ANN. § 81-1604(4)(i) (2018) – State strategic energy plan must support the “diversification of the state’s energy portfolio in a way that balances the lowest practicable environmental costs with maximum economic benefits.”</li> </ul>



Nevada	
Political Landscape	<u>Public Utilities Commission of Nevada</u> : Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	Public Interest <ul style="list-style-type: none"> <li>Energy conservation is in the public interest               <ul style="list-style-type: none"> <li>NEV. REV. STAT. § 701.010(1)(d) (2017) – “The Legislature finds that ... [t]he State and the public have an interest in encouraging public utilities to promote and take actions toward energy conservation....”</li> </ul> </li> </ul>
	Environmental/Social Costs <ul style="list-style-type: none"> <li>NEV. REV. STAT. § 704.746(a)&amp;(e) (2017) – Nevada’s IRP statute compels the Commission to give preference to supply resources that “[p]rovide the greatest economic and environmental benefits to the State... (and among other requirements) reduce customer exposure to the price volatility of fossil fuels and the potential costs of carbon.”</li> </ul>
Other Considerations	Climate Action Commitments <ul style="list-style-type: none"> <li>On March 12, Governor Sisolak announced that Nevada is joining the U.S. Climate Alliance, and set out the following goals:               <ul style="list-style-type: none"> <li>“Implement policies that advance the goals of the Paris Agreement, aiming to reduce greenhouse gas emission by at least 26-28 percent below 2005 levels by 2025;</li> <li>Track and report progress to the global community in appropriate settings, including when the world convenes to take stock of the Paris Agreement, and;</li> <li>Accelerate new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level.” Official State Website of Nevada. Governor Sisolak Announces Nevada has Joined U.S. Climate Alliance. (Mar. 12, 2019), <a href="http://gov.nv.gov/News/Press/2019/Governor_Sisolak_Announces_Nevada_has_Joined_U_S_Climate_Alliance/">http://gov.nv.gov/News/Press/2019/Governor_Sisolak_Announces_Nevada_has_Joined_U_S_Climate_Alliance/</a></li> </ul> </li> </ul>
	Actions to Date <ul style="list-style-type: none"> <li>Nev. Pub. Util. Comm’n, Investigation and Rulemaking to Implement Senate Bill 65 of 2017, Docket No. 17-07020, Aug. 5, 2018, <a href="http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2017-7/32153.pdf">http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2017-7/32153.pdf</a> (to be codified at Nev. Admin. Code § 706.937 (5) &amp; (6)) – Nevada’s PUC passed an order finalizing the regulation to implement Senate Bill 65, which directs utilities to consider the economic and environmental benefits of their integrated resource plans including the social cost of carbon.</li> </ul>



## New Hampshire



Political Landscape	<p><u>New Hampshire Public Utilities Commission: Appointed</u></p>
	<p>Executive: Republican</p>
	<p>Legislature: Majority Republican</p>
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>N.H. REV. STAT. ANN. § 378:7 (2018), Fixing of Rates by Commission – “Whenever the commission shall be of opinion, after a hearing had upon its own motion or upon complaint, that the rates, fares or charges demanded or collected, or proposed to be demanded or collected, by any public utility for service rendered or to be rendered are unjust or unreasonable, or that the regulations or practices of such public utility affecting such rates are unjust or unreasonable, or in any wise in violation of any provision of law . . . the commission shall determine the just and reasonable or lawful rates . . .”</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>N.H. REV. STAT. ANN. § 374-G:5(II) (2018)(distributed energy resources) – “Prior to authorizing a utility’s recovery of investments made in distributed energy resources, the commission shall determine that the utility’s investment and its recovery in rates, as proposed, are in the public interest.”</li> <li>N.H. REV. STAT. ANN. § 362-F:9(I) (2018)(purchased power agreements) – “[T]he commission may authorize such company or companies to enter into multi-year purchase agreements with renewable energy sources for certificates, in conjunction with or independent of purchased power agreements from such sources, to meet reasonably projected renewable portfolio requirements and default service needs to the extent of such requirements, if it finds such agreements or such an approach, as may be conditioned by the commission, to be in the public interest.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>N.H. REV. STAT. ANN. § 374-G:5 (2018)(distributed energy resources) – Factors that the Commission must take into consideration to determine whether an investment is in the public interest and may be recovered in rates “shall include” “[t]he environmental benefits of the investment to the state of New Hampshire.”</li> <li>N.H. REV. STAT. ANN. § 362-F:9(II) (2018)(purchased power agreements) – “In determining the public interest [to authorize a company to enter into a purchased power agreement], the commission shall find that the proposal is, on balance, substantially consistent with the following factors:...(e) Economic development and environmental benefits for New Hampshire.”</li> <li>Commission must consider potential environmental and health impact of each proposed option in utility integrated resource plans             <ul style="list-style-type: none"> <li>N.H. REV. STAT. ANN. § 378:39 (2018) – “In deciding whether or not to approve the utility’s [integrated least-cost resource] plan, the commission shall consider potential environmental, economic, and health-related impacts of each proposed option.”</li> </ul> </li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI and ISO New England</li> </ul>

## New Jersey



Political Landscape	<p><u>New Jersey Board of Public Utilities: Appointed</u></p>
	<p>Executive: Democrat</p>
	<p>Legislature: Majority Democrat</p>
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>N.J. STAT. ANN. § 48:2-21(1) – The Board may “fix just and reasonable individual rates” that must be followed by any utility under the Board’s jurisdiction.</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>Programs to reduce electricity use may be assessed based on implementation of the public interest                             <ul style="list-style-type: none"> <li>N.J. STAT. ANN. § 48:3-87.9(d)(2) (West 2018): “The energy efficiency programs and peak demand reduction programs shall have a benefit-to-cost ratio greater than or equal to 1.0 at the portfolio level, considering both economic and environmental factors . . . . A program may have a benefit-to-cost ratio of less than 1.0 but may be appropriate to include within the portfolio if implementation of the program is in the public interest, including, but not limited to, benefitting low-income customers or promoting emerging energy efficiency technologies.”</li> </ul> </li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>Emissions avoidance benefits (from ZECs program): “the benefits associated with the preservation of better air quality and other environmental attributes caused by the production of electric energy from a selected nuclear power plant, as well as the reduction in damage that would otherwise be caused by carbon dioxide or other greenhouse gases or other pollutants emitted but for the production of electric energy from a selected nuclear power plant....” N.J. STAT. ANN. § 48:3-87.4 (West 2018).                             <ul style="list-style-type: none"> <li>N.J. STAT. ANN. § 48:3-87.3 (West 2018) – Emissions avoidance benefits are not strictly limited to nuclear plants: “...to achieve its near term environmental goals, New Jersey must expand its commitment to zero-emission energy generation and value the air quality and other environmental attributes of zero-emission generation sources that currently fall outside the scope of the existing renewable energy portfolio standard, including but not limited to nuclear power....”</li> </ul> </li> <li>N.J. STAT. ANN. § 48:3-87.9(2) (West 2018) – Energy efficiency programs “shall have a benefit-to-cost ratio greater than or equal to 1.0 at the portfolio level, considering both economic and environmental factors.”</li> <li>N.J. STAT. ANN. § 48:3-87(o) (West 2018) – Increasing of RPSs should take into account the cost impacts and public benefits of such increases, “taking into account the cost impacts and public benefits of such increases including, but not limited to:... (1) reductions in air pollution, water pollution, land disturbance, and greenhouse gas emissions;... (4) reductions in State and national dependence on the use of fossil fuels.”                             <ul style="list-style-type: none"> <li>N.J. STAT. ANN. § 48:3-87.1 (West 2018)– Application for offshore wind projects must include “(b)the cost-benefit analysis, submitted pursuant to paragraph (10) of subsection a. of this section, demonstrates positive economic and environmental net benefits to the State; [and]...(c) an analysis of the anticipated environmental benefits and environmental impacts of the project.”</li> </ul> </li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>N.J. STAT. ANN. § 26:2C-38 (West 2018) – Mandatory 80% greenhouse gas emissions reduction below a 2006 baseline by 2050.</li> </ul>
	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>Regulations on ZECs and offshore wind projects both include discussion of a monetary value for “environmental benefits.” See N.J. STAT. ANN. § 48:3-87.4 (West 2018)(ZECs); N.J. STAT. ANN. § 48:3-87.1 (West 2018)(offshore wind).</li> </ul>
	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Proposal to rejoin RGGI</li> <li>Member of PJM</li> </ul>

## New Mexico



Political Landscape	<p><u>New Mexico Public Regulation Commission</u>: Elected: 4 Democrats and 1 Republican</p> <p>Executive: Democrat</p> <p>Legislature: Majority Democrat</p>
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>The Public Regulation Commission is authorized to “assure reasonable and proper utility service at fair, just and reasonable rates.” N.M. STAT. ANN. § 62-6-19 (West 2018).</li> </ul> <p>Public Interest</p> <ul style="list-style-type: none"> <li>Just and reasonable standard in “public interest” <ul style="list-style-type: none"> <li>N.M. STAT. ANN. § 62-3-1(B) (West 2018) – “It is the declared policy of the state that the public interest, the interest of consumers and the interest of investors require the regulation and supervision of public utilities to the end that reasonable and proper services shall be available at fair, just and reasonable rates and to the end that capital and investment may be encouraged and attracted so as to provide for the construction, development and extension, without unnecessary duplication and economic waste, of proper plants and facilities and demand-side resources for the rendition of service to the general public and to industry.”</li> </ul> </li> </ul> <p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>“[A] utility’s description of its existing resources used to serve its jurisdictional retail load at the time the IRP is filed shall include “(13) environmental impacts of existing supply-side resources” including “(b) to the extent feasible, for each existing supply-side resource on its system, [the] emission rates (expressed in pounds emitted per kilowatt-hour generated) of criteria pollutants as well as carbon dioxide and mercury....” N.M. ADMIN. CODE § 17.7.3.9 (2019).</li> <li>IRPs must also include a summary of how certain “factors were considered in, or affected, the development of resource portfolios,” including “...c) existing and anticipated environmental laws and regulations, and, if determined by the commission, the standardized cost of carbon emissions...” N.M. ADMIN. CODE § 17.7.3.9(G) (2019).</li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>New Mexico Governor Michelle Lujan Grisham signed an executive order in January 2019 that the state will pursue a 45 percent reduction in the emission of heat-trapping gases by 2030. The goal is benchmarked to 2005 emission levels. Gov. Grisham also joined the US Climate Alliance, committing the state to uphold the Paris agreement. Morgan Lee, <i>New Mexico Governor Joins Alliance Against Climate Change</i>, AP, Jan. 19, 2019, <a href="https://www.apnews.com/7a3b2f0920a44491a91f5dfea286223e">https://www.apnews.com/7a3b2f0920a44491a91f5dfea286223e</a>.</li> </ul>

## New York



<p>Political Landscape</p>	<p><u>New York State Public Service Commission: Appointed</u></p> <p>Executive: Democrat</p> <p>Legislature: Majority Democrat</p>
<p>Statutory Landscape</p>	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>N.Y. PUB. SERV. LAW § 66(14) (McKinney 2018) – “The commission shall have power to require each gas corporation and electric corporation to establish classifications of service based upon the quantity used, the time when used, the purpose for which used, the duration of use and upon any other reasonable consideration, and to establish in connection therewith just and reasonable graduated rates and charges; and it shall have power, either upon complaint or upon its own motion, to require such changes in such classifications, rates and charges as it shall determine to be just and reasonable.”</li> </ul> <p>Public Interest</p> <ul style="list-style-type: none"> <li>N.Y. PUB. SERV. LAW § 5(2) (McKinney 2018) – “The commission shall encourage all persons and corporations subject to its jurisdiction to formulate and carry out long-range programs, individually or cooperatively, for the performance of their public service responsibilities with economy, efficiency, and care for the public safety, the preservation of environmental values and the conservation of natural resources.”</li> <li>N.Y. PUB. SERV. LAW § 66(2) (McKinney 2018) – The PSC is authorized to “order [] reasonable improvements as will best promote the public interest, preserve the public health and protect those using such gas or electricity and those employed in the manufacture and distribution thereof...”</li> </ul> <p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>The Order Adopting the state’s Clean Energy Standard establishes a mechanism and a price for zero-emissions attributes of nuclear zero-carbon electric generating facilities where public necessity to encourage the continued creation of the attributes is demonstrated. <i>See</i> N.Y. Pub. Serv. Comm’n, Order Adopting a Clean Energy Standard, Case 15-E-0302, Aug. 1, 2016, <a href="http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={44C5D5B8-14C3-4F32-8399-F5487D6D8FE8}">http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={44C5D5B8-14C3-4F32-8399-F5487D6D8FE8}</a>.</li> <li>Staff proposes that public necessity be determined on a plant-specific basis at the discretion of the Commission, upon considerations of the following factors: “(a) the verifiable historic contribution the facility has made to the clean energy resource mix consumed by retail consumers in New York State regardless of the location of the facility; (b) the degree to which energy, capacity and ancillary services revenues projected to be received by the facility are at a level that is insufficient to provide adequate compensation to preserve the zero-emissions environmental values or attributes historically provided by the facility; (c) the costs and benefits of such a payment for zero emissions attributes for the facility in relation to other clean energy alternatives for the benefit of the electric system, its customers and the environment; (d) the impacts of such costs on ratepayers; and (e) the public interest.”</li> <li>The PSC’s approach for calculating the SCC in the ZEC program was upheld in June 2017 by the United States District Court for the Southern District of New York. The Second Circuit upheld the district court’s decision. <i>Coalition for Competitive Elec. v. Zibelman</i>, 906 F.3d 41 (2d Cir. 2018).</li> </ul>
<p>Other Considerations</p>	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>REV and NY State Energy Plan <ul style="list-style-type: none"> <li>40% reduction in greenhouse gas emissions from 1990 levels</li> <li>50% of energy generation from renewable energy sources</li> <li>23% decrease in energy consumption in buildings from 2012 levels</li> </ul> </li> </ul>

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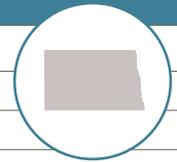
## New York (continued)

Other Considerations	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>New York’s Clean Energy Standard and accompanying Zero Emissions Credit (“ZEC”) take into account the SCC in calculating the value of using emission-free nuclear power, rather than carbon-emitting fossil fuel power. <i>See</i> N.Y. Pub. Serv. Comm’n, Case No. 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Institute for Policy Integrity Comments on Staff White Paper on Benefit-Cost Analysis in the Reforming Energy Vision Proceeding, Filing No. 447, at 22 (Aug. 21, 2015).</li> <li>NYISO and the PSC released a straw proposal which outlined a potential design for including the Social Cost of Carbon into the wholesale electricity market in New York State. The two regulators convened an Integrated Public Policy Task Force to create recommendations based on the proposal. The final report was released in August 2018. <i>See</i> N.Y. INDEP. SYS. OPERATOR, CARBON PRICING DRAFT RECOMMENDATIONS: REPORT PREPARED FOR THE INTEGRATING PUBLIC POLICY TASK FORCE (2018), <a href="https://www.nyiso.com/documents/20142/3911819/Carbon-Pricing-Proposal%20December%202018.pdf">https://www.nyiso.com/documents/20142/3911819/Carbon-Pricing-Proposal%20December%202018.pdf</a>.</li> <li>The working group exploring the development of the “E Value” has proposed a methodology for compensating DERs for their environmental benefits, including by using measurements based upon the SCC. While this process to develop of a more precise E Value is ongoing, non-emitting DERs are compensated using the “Phase One” “Environmental Value, based on the higher of the [Renewable Energy Certificate] price . . . or the [IWG’s] Social Cost of Carbon.” N.Y. Pub. Serv. Comm’n, In the Matter of the Value of Distributed Energy Resources, Case 15-E-0751, <a href="http://www3.dps.ny.gov/W/PSCWeb.nsf/All/8A5F3592472A270C8525808800517BDD?OpenDocument">http://www3.dps.ny.gov/W/PSCWeb.nsf/All/8A5F3592472A270C8525808800517BDD?OpenDocument</a> (last visited Mar. 11, 2019)</li> </ul>
	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI and NYISO</li> </ul>

## North Carolina

Political Landscape	<p><u>North Carolina Utilities Commission</u>: Appointed</p>	
	<p>Executive: Democrat</p>	
	<p>Legislature: Majority Republican</p>	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>N.C. GEN. STAT. ANN. § 62-131 (West 2018) – “Every rate made, demanded or received by any public utility, or by any two or more public utilities jointly, shall be just and reasonable.”</li> </ul>	
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>N.C. GEN. STAT. ANN. § 62-133.6(g) – “Consistent with the public interest, the Commission is authorized to approve proposals submitted by an investor-owned public utility to implement optional, market-based rates and services,” with respect to environmental cost recovery. And seemingly on top of “actual environmental compliance costs” because that is covered in a separate subsection.</li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>	

North Dakota	
Political Landscape	<u>North Dakota Public Service Commission</u> : Elected, Republican
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>N.D. CENT. CODE § 49-04-02 (2018) – Utility rates “shall be just and reasonable.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>Commission may not consider environmental externalities in rate setting, nor allow utilities to use environmental externality values in resource planning</li> <li>N.D. CENT. CODE § 49-02-23 (2018) – “The commission may not use, require the use of, or allow electric utilities to use environmental externality values in the planning, selection, or acquisition of electric resources or the setting of rates for providing electric service. Environmental externality values are numerical costs or quantified values that are assigned to represent either: 1. Environmental costs that are not internalized in the cost of production or the market price of electricity from a particular electric resource; or 2. The alleged costs of complying with future environmental laws or regulations that have not yet been enacted.”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of MISO</li> </ul>



Ohio	
Political Landscape	<u>Public Utilities Commission of Ohio</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>OHIO REV. CODE ANN. § 4909.15(A) (West 2018) – The public utilities commission shall consider certain factors “when fixing and determining just and reasonable rates . . .”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>



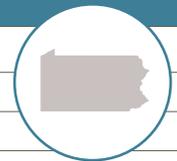
Oklahoma	
Political Landscape	<u>Oklahoma Corporation Commission</u> : Elected, all Republican
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>OKLA. STAT. tit. 17, § 263(A) (West 2018) – “In order to assure that the rates charged to their customers by public utilities and electric distribution cooperatives which utilize fuel adjustment clauses or purchased power adjustment clauses are just and reasonable, the Commission shall periodically conduct detailed rate investigations of such utilities and cooperatives.”</li> </ul>



Oregon	
Political Landscape	<u>Public Utility Commission of Oregon</u> : Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>OR. REV. STAT. ANN. § 756.040 (West 2018) – “The commission shall balance the interests of the utility investor and the consumer in establishing fair and reasonable rates.”</li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>OR. REV. STAT. ANN. § 757.528 (West 2018)(GHG emissions standard) – “[T]he greenhouse gas emissions standard that applies to consumer-owned utilities is 1,100 pounds of greenhouse gases per megawatt-hour for a generating facility.” “(4) The department shall review the greenhouse gas emissions standard established under this section no more than once every three years. After public notice and hearing, and consultation with the Public Utility Commission, the department may: <ul style="list-style-type: none"> <li>(a) Modify the emissions standard to include other greenhouse gases as defined in OR. REV. STAT. ANN. § 468A.210 (West 2018), with the other greenhouse gases expressed as their carbon dioxide equivalent; and</li> <li>(b) Modify the emissions standard based upon current information on the rate of greenhouse gas emissions from a commercially available combined-cycle natural gas generating facility.”</li> </ul> </li> </ul>



Pennsylvania	
Political Landscape	<u>Pennsylvania Public Utility Commission</u> : Appointed
	Executive: Democrat
	Legislature: Majority Republican
Statutory Landscape	<p>Public Interest</p> <ul style="list-style-type: none"> <li>66 PA. CONS. STAT. ANN. § 1501 (West 2018) – “Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public.”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>



## Rhode Island

Political Landscape	<u>Rhode Island Public Utilities Commission</u> : Appointed	
	Executive: Democrat	
	Legislature: Majority Democrat	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>R.I. GEN. LAWS § 39-1-1(b) (2018) – The legislature’s policy statement says that it is the policy of the state “to provide fair regulation of public utilities . . . in the interest of the public, to promote availability of adequate, efficient and economical energy, communication, and transportation services and water supplies to the inhabitants of the state, to provide just and reasonable rates and charges for such services...”</li> </ul>	
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>No mandate, though the state policy statement says that “It is hereby declared to be the policy of the state to provide fair regulation of public utilities and carriers in the interest of the public . . .” R.I. GEN. LAWS § 39-1-1(b) (2018).</li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI</li> <li>Member of ISO New England</li> </ul>	

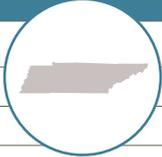
## South Carolina

Political Landscape	<u>South Carolina Public Service Commission</u> : Appointed	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>S.C. CODE ANN. § 58-27-810 (2018) – “Every rate made, demanded or received by any electrical utility or by any two or more electrical utilities jointly shall be just and reasonable.”</li> </ul>	
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>IRP provisions require accounting of environmental consequences                             <ul style="list-style-type: none"> <li>S.C. CODE ANN. § 58-37-40(C) (2018) – “The State Energy Office, to the extent practicable, shall evaluate and comment on external environmental and economic consequences of each integrated resource plan submitted and on the environmental and economic consequences for suppliers and distributors.”</li> </ul> </li> </ul>	

## South Dakota

Political Landscape	<u>South Dakota Public Utilities Commission</u> : Elected, all Republican	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>S.D. CODIFIED LAWS § 49-34A-8 (2018) – “The commission, in the exercise of its power under this chapter to determine just and reasonable rates for public utilities, shall give due consideration to the public need for adequate, efficient, economical, and reasonable service and to the need of the public utility for revenues sufficient to enable it to meet its total current cost of furnishing such service . . . .”</li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of MISO</li> </ul>	

## Tennessee

Political Landscape	<u>Tennessee Public Utility Commission</u> : Appointed	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>TENN. CODE ANN. § 65-5-101(a) (West 2018) – Commission has the power to fix “just and reasonable” rates after a hearing upon notice.</li> </ul>	

## Texas

Political Landscape	<u>Public Utility Commission of Texas</u> : Appointed	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>TEX. UTIL. CODE ANN. § 36.051–052 (Vernon 2017) – The relevant authorizing provisions discuss “reasonable” rates to ensure a “reasonable” return for utilities.</li> </ul>	
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>No mandate, though the public interest is invoked in the utility regulation policy section: “This title is enacted to protect the public interest inherent in the rates and services of public utilities.” TEX. UTIL. CODE ANN. § 11.002(a) (Vernon 2017). <i>See also</i> TEX. UTIL. CODE ANN. § 39.001(b) (Vernon 2017) (announcing public interest rationale for “Restructuring of Electric Utility Industry”).</li> </ul>	
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>TEX. UTIL. CODE ANN. § 36.052 (Vernon 2017) – “In establishing a reasonable return on invested capital, the regulatory authority shall consider applicable factors, including: (1) the efforts and achievements of the utility in conserving resources; (2) the quality of the utility’s services; (3) the efficiency of the utility’s operations; and (4) the quality of the utility’s management.”</li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>ERCOT</li> </ul>	

Utah	
Political Landscape	<u>Utah Division of Public Utilities</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>UTAH CODE ANN. § 54-3-1 (West 2018) – “All charges made, demanded or received by any public utility, or by any two or more public utilities, for any product or commodity furnished or to be furnished, or for any service rendered or to be rendered, shall be just and reasonable.”</li> <li>“The scope of definition ‘just and reasonable’ may include, but shall not be limited to, the cost of providing service to each category of customer, economic impact of charges on each category of customer, and on the well-being of the state of Utah; methods of reducing wide periodic variations in demand of such products, commodities or services, and means of encouraging conservation of resources and energy.” <i>Id.</i></li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>UTAH CODE ANN. § 54-4-4.1(1) (West 2018) – “The commission may, by rule or order, adopt any method of rate regulation that is: (a) consistent with this title; (b) in the public interest; and (c) just and reasonable.”</li> </ul>



Vermont	
Political Landscape	<u>Vermont Public Utility Commission</u> : Appointed
	Executive: Republican
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>VT. STAT. ANN. tit. 30, § 218 (2018) – Rates may not be “unjust, unreasonable, insufficient, or unjustly discriminatory . . .”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>VT. STAT. ANN. tit. 30, § 218 (2018) – “The Commission shall approve rate designs to encourage the efficient use of natural gas and electricity.”</li> <li>VT. STAT. ANN. tit. 30, § 8001 (2018) – The PUC’s standard offer program is meant to achieve the goals of § 8001, which includes “[b]alancing the benefits, lifetime costs, and rates of the State’s overall energy portfolio to ensure that to the greatest extent possible the economic benefits of renewable energy in the State flow to the Vermont economy in general.”</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of RGGI and MISO</li> </ul>



## Virginia



<p>Political Landscape</p>	<p>Virginia Public Utilities [division of State Corporation Commission]: Appointed by Legislature</p> <p>Executive: Democrat</p> <p>Legislature: Majority Republican</p>
<p>Statutory Landscape</p>	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• VA. CODE ANN. § 56-235 (West 2018) – The Corporation Commission has the power to fix unjust or unreasonable rates so they are “just and reasonable.”</li> </ul> <p>Public Interest</p> <ul style="list-style-type: none"> <li>• VA. CODE ANN. § 56-235.1 (West 2018) – “Where the Commission finds that the public interest would be served, it may order any public utility to eliminate, alter or adopt a substitute for any act, practice, rate or charge which is not reasonably calculated to promote the maximum effective conservation and use of energy and capital resources used by public utilities in providing utility service . . .”</li> <li>• VA. CODE ANN. § 56-599(C) (West 2018) – the Commission reviews IRPs to determine if the submission “is reasonable and is in the public interest.”</li> </ul> <p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>• Utilities’ IRPs many consider reductions in emissions, among many other considerations             <ul style="list-style-type: none"> <li>• VA. CODE ANN. § 56-599(A) (West 2018) – “Each integrated resource plan shall consider options for maintaining and enhancing rate stability, energy independence, economic development including retention and expansion of energy-intensive industries, and service reliability.”</li> <li>• VA. CODE ANN. § 56-599(B)(11) (West 2018) – “In preparing an integrated resource plan, each electric utility shall systematically evaluate, and may propose . . . [d]eveloping a long-term plan for energy efficiency measures to accomplish policy goals of reduction in customer bills, particularly for low-income, elderly, and disabled customers; reduction in emissions; and reduction in carbon intensity.”</li> <li>• VA. CODE ANN § 67-102(6) explicitly states that “it shall be the policy of the Commonwealth to . . . promote the generation of electricity through technologies that do not contribute to greenhouse gases and global warming.”</li> </ul> </li> </ul>
<p>Other Considerations</p>	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>• Governor McAuliffe (2014-2018) and Governor Northam (2018 – ) support a proposal for Virginia to join the Regional Greenhouse Gas Initiative (RGGI). Robert Walton, <i>With Proposal to Join RGGI, Virginia Would be First Southern State to Cap Carbon</i>, UTILITY DIVE, Jan. 10, 2018, <a href="https://www.utilitydive.com/news/with-proposal-to-join-rggi-virginia-would-be-first-southern-state-to-cap-c/514537">https://www.utilitydive.com/news/with-proposal-to-join-rggi-virginia-would-be-first-southern-state-to-cap-c/514537</a>.</li> </ul> <p>Affiliations</p> <ul style="list-style-type: none"> <li>• Member of PJM</li> <li>• Proposal to join RGGI</li> </ul>

Washington State	
Political Landscape	<u>Washington Utilities and Transportation Commission</u> : Appointed
	Executive: Democrat
	Legislature: Majority Democrat
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>WASH. REV. CODE ANN. § 80.28.020 (West 2018) – Commission shall determine “just and reasonable” rates if, after a hearing, rates are found to be unjust or unreasonable.</li> </ul>
	<p>Public Interest</p> <ul style="list-style-type: none"> <li>WASH. REV. CODE ANN. § 80.01.040(3) (West 2018) – “The utilities and transportation commission shall [r]egulate in the public interest, as provided by the public service laws, the rates, services, facilities, and practices of all persons engaging within this state in the business of supplying any utility service or commodity to the public for compensation.”</li> </ul>
	<p>Environmental/Social Costs</p> <ul style="list-style-type: none"> <li>WASH. ADMIN. CODE § 480-100-238 (b) (West 2018) [regulation, not statute] <ul style="list-style-type: none"> <li>“Lowest reasonable cost” means the lowest cost mix of resources determined through a detailed and consistent analysis of a wide range of commercially available sources. At a minimum, this analysis must consider resource costs, market-volatility risks, demand-side resource uncertainties, resource dispatchability, the risks imposed on ratepayers, resource effect on system operations, public policies regarding resource preference adopted by Washington state or the federal government and the cost of risks associated with environmental effects including emissions of carbon dioxide.</li> </ul> </li> </ul>
Other Considerations	<p>Climate Action Commitments</p> <ul style="list-style-type: none"> <li>WASH. REV. CODE ANN. § 70.235.005 (West 2018) – Limiting Greenhouse Gas Emissions <ul style="list-style-type: none"> <li>By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels;</li> <li>By 2035, reduce overall emissions of greenhouse gases in the state to twenty-five percent below 1990 levels;</li> <li>By 2050, the state will do its part to reach global climate stabilization levels by reducing overall emissions to fifty percent below 1990 levels, or seventy percent below the state’s expected emissions that year.</li> </ul> </li> </ul>
	<p>Actions to Date</p> <ul style="list-style-type: none"> <li>In May 2018 the Washington Utilities and Transportation Commission ordered three utilities to reconsider the carbon-emission costs of producing electricity from coal and other fossil fuels, recommending using the SCC as the measure for the cost of carbon. See Hal Bernton, <i>Washington State Regulators Tell Utilities to Tally Social Costs of Carbon Emissions</i>, SEATTLE TIMES, May 9, 2018, <a href="https://www.seattletimes.com/seattle-news/environment/washington-state-regulators-tell-utilities-to-tally-social-costs-of-carbon-emissions">https://www.seattletimes.com/seattle-news/environment/washington-state-regulators-tell-utilities-to-tally-social-costs-of-carbon-emissions</a>.</li> </ul>



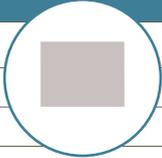
West Virginia	
Political Landscape	<u>Public Service Commission of West Virginia</u> : Appointed
	Executive: Republican
	Legislature: Majority Republican
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>W. VA. CODE ANN. § 24-2-2(a) (West 2018) – PSC may prescribe “just and reasonable” rates.</li> </ul>
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>Member of PJM</li> </ul>



## Wisconsin

Political Landscape	<u>Wisconsin Public Service</u> : Appointed	
	Executive: Democrat	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• WIS. STAT. ANN. § 196.37(1) (West 2018) – If the commission finds that a rate or charge is “unjust, unreasonable, insufficient or unjustly discriminatory or preferential or otherwise unreasonable or unlawful, the commission shall determine and order reasonable rates.”</li> </ul>	
Other Considerations	<p>Affiliations</p> <ul style="list-style-type: none"> <li>• Member of MISO</li> </ul>	

## Wyoming

Political Landscape	<u>WY Public Service Commission</u> : Appointed	
	Executive: Republican	
	Legislature: Majority Republican	
Statutory Landscape	<p>“Just and Reasonable” Standard</p> <ul style="list-style-type: none"> <li>• WYO. STAT. ANN. § 37-3-101 (2018) – “All rates shall be just and reasonable, and all unjust and unreasonable rates are prohibited.”</li> </ul>	

# Appendix B

## List of the Institute for Policy Integrity's Comments to States on Valuing Climate Damages

### California

**Noteworthy outcomes:** The Commission's proposed decision in the distributed energy resources proceeding cites our comments to support the application of the Interagency Working Group's estimates of the Social Cost of Carbon. The proposed decision adopts many elements of an earlier staff proposal in the proceeding, which heavily cites our comments.

Comments to the California PUC on Energy Storage (Sept. 2018)

Comments on California's Distributed Energy Resources Policy (April 2018)

Comments to California on Its Cap and Trade Program (March 2018)

Comments on California's Cap-and-Trade Program (Nov. 2017)

Comments to California's Public Utilities Commission on Energy Planning (June 2017)

Comments on California Electricity Policy (May 2017)

Comments to the California Public Utilities Commission on an Interim Greenhouse Gas Adder (April 2017)

Comments on California Distributed Energy Resources Policy (March & April 2017)

### Colorado

Comments to the Colorado Public Utilities Commission on Electric Resource Planning (Sept. 2018)

Comments to Colorado Public Utilities Commission on Electric Resource Planning (Jan. 2018)

Comments on the Colorado Climate Plan Update (Nov. 2017)

### Minnesota

Comments to Minnesota on the Social Cost of Carbon (July 2017)

### Nevada

**Noteworthy Outcome:** The Institute for Policy Integrity's input helped encourage Nevada to modernize its energy policymaking by accounting for the impacts of carbon pollution in key electric utility planning decisions. At the recommendation of the Institute for Policy Integrity and partner groups, the Public Utilities Commission of Nevada recently included language on the Obama-era Interagency Working Group's Social Cost of Carbon in new rules governing utilities' resource plans. Utilities will now have to analyze and clearly disclose the damages caused by climate change when evaluating alternative long-term resource plans.

Comments to the Nevada PUC on the Proposed Regulation to Implement SB 65 (July 2018)

Comments to the Public Utilities Commission of Nevada on the Social Cost of Carbon (Nov. 2017)

Comments to Nevada's Public Utilities Commission (Oct. 2017)

## New Jersey

[Comments on New Jersey Rejoining the Regional Greenhouse Gas Initiative](#) (Feb. 2019)

[Comments on New Jersey's Energy Master Plan](#) (Oct. 2018)

## New York

**Noteworthy Outcome:** The current NY PSC/NYISO carbon pricing proposal incorporates some of the Institute for Policy Integrity's input related to the Social Cost of Carbon. Many of the Institute for Policy Integrity's recommendations on the proper valuation of zero-emissions energy generation and the analysis of resilience investments were adopted by the NY PSC. The NY PSC also incorporated the Institute for Policy Integrity's recommendations in the development of the cost-benefit analysis framework in the Reforming the Energy Vision proceeding.

[Comments to New York on Electricity Rate Design](#) (May 2018)

[Comments to New York State on Clean Energy Standards for Existing Generators](#) (Jan. 2018)

[Comments on Carbon Pricing in Wholesale Electricity Markets to New York](#) (Nov. 2017)

[Comments on the Work Plan of the New York Carbon Pricing Task Force](#) (Nov. 2017)

[Comments on Distributed Energy Valuation Methods in New York](#) (Dec. 2016)

[Comments on New York State Benefit Cost Analysis Handbooks](#) (Sept. 2016)

[Comments to New York State on Zero-Emissions Attributes](#) (July 2016)

[Comments to New York on the Clean Energy Standard Staff White Paper](#) (April 2016)

[Comments on Net Metering and Distributed Energy Valuation in New York](#) (April 2016)

[Comments on New York State Energy Policy](#) (Oct. 2015)

[Comments on New York State's "Reforming the Energy Vision" Initiative](#) (Aug. 2015)

## Vermont

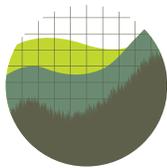
[Comments on Vermont's Standard Offer Program](#) (Sept. 2018)

## Virginia

[Comments to Virginia on Integrated Resource Planning](#) (Sept. 2018)

## Wisconsin

[Public Comments on Net Metering in Wisconsin](#) (Oct. 2014)



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