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FROM THE CLEAN POWER PLAN TO THE AFFORDABLE CLEAN ENERGY RULE: HOW REGULATED ENTITIES ADAPT TO REGULATORY CHANGE AND UNCERTAINTY

*Ryan B. Stoa**

Regulated entities often struggle to adapt to regulatory change and uncertainty. This is particularly true in the power and utilities sectors, where the scope and scale of project-level planning and management is broad, and changes to these processes can be highly disruptive. Regulatory disruption notwithstanding, some companies adapt to regulatory change and uncertainty better than others. Presently, there is a gap in understanding what these regulatory adaptation best practices might be for the power and utilities sectors.

When the federal Environmental Protection Agency (“EPA”) publicly proposed the Clean Power Plan (“CPP”) in 2014, stakeholders in the power and utilities sectors were forced to reckon with the possibility that the CPP would prompt profound changes in the regulatory landscape. As of writing, however, the EPA has since proposed to repeal the CPP and replace it with the Affordable Clean Energy (“ACE”) rule, a decision that significantly relaxes regulatory obligations for power companies. The ACE rule will be challenged in federal court, and its future remains in doubt.

This case study will focus on the CPP as a means of investigating the best practices and ongoing challenges of adapting to regulatory uncertainty. The study will provide an in-depth analysis of the approach taken by three companies whose projects and/or financial investments would be implicated by the CPP. The three companies have been

* Associate Professor of Law, Concordia University School of Law. The Author is grateful to the Construction Industry Institute, whose funding of the *RT-PUI-01 Identifying and Evaluating the Impact of Regulations Throughout the Project Life Cycle* project made this study possible. Co-principal investigators for the project include Ali Mostafavi (Texas A&M University), Ed Jaselskis (North Carolina State University), Jin Zhu (University of Connecticut), and the Author. Qingchun Li and Chase Petty provided timely and valuable research assistance.

interviewed by the Author, and have developed unique and potentially transformative approaches to regulatory uncertainty, while at the same time offering cautionary tales and lessons learned.

I. INTRODUCTION

On August 3, 2015, President Barack Obama delivered remarks in the East Room of the White House that would profoundly shape the course of United States energy policy.¹ He began by stating his conviction “that no challenge poses a greater threat to our future and future generations than a changing climate.”² And while the President acknowledged the multi-faceted complexity presented by climate change, it quickly became clear that one source of emissions, in particular, was being put in the spotlight:

Right now, our power plants are the source of about a third of America’s carbon pollution. That’s more pollution than our cars, our airplanes, and our homes generate combined. . . . But there have never been federal limits on the amount of carbon that power plants can dump into the air. Think about that.³

President Obama’s remarks that day represented his Administration’s unveiling of a powerful new regulatory approach to combatting emissions from power plants—the Clean Power Plan (“CPP”).⁴ Several years in the making, the CPP’s purpose is to force states to create and enforce power plant emissions limitations programs that would meet federal standards established by the Environmental Protection Agency (“EPA”).⁵ Perhaps inevitably, the EPA’s standards enumerated in the CPP would gradually push the country’s energy mix away from fossil-fuel-generating power sources and toward renewable energy sources.⁶

For its part, the EPA derived its authority to launch the CPP from the federal Clean Air Act (“CAA”), which broadly authorizes the EPA to

1. President Barack Obama, Remarks by the President in Announcing the Clean Power Plan (Aug. 3, 2015) (transcript available at <https://obamawhitehouse.archives.gov/the-press-office/2015/08/03/remarks-president-announcing-clean-power-plan>).

2. *Id.*

3. *Id.*

4. *Id.*

5. *Id.*

6. See U.S. ENVTL. PROT. AGENCY, EPA-452/R-15-003, REGULATORY IMPACT ANALYSIS FOR THE CLEAN POWER PLAN FINAL RULE 1-7 (2015), https://www3.epa.gov/ttnecas1/docs/ria/utilities_ria_final-clean-power-plan-existing-units_2015-08.pdf. It is also possible that state-level policies are driving/could drive this shift. See *id.* (emphasizing that the states have “the maximum flexibility and latitude in meeting the requirements of the emission guidelines”).

regulate sources of air pollution.⁷ However, it is not clear if the CAA grants to the EPA such a broad license to shape federal energy policy.

Traditionally, the CAA has been understood to provide congressional authorization to identify air pollutants that harm human health and the environment, and subsequently, to establish emissions limitations or minimum technology standards designed to reduce the accumulation of those pollutants in the atmosphere.⁸ The CPP represented a bold new direction for the EPA in that it pushed states to reformulate their power sectors to align with the Obama Administration's clean energy priorities.

To many observers, the CPP went above and beyond the traditional moorings of the CAA. The CPP was quickly challenged in federal court, where it received an unprecedented stay from the U.S. Supreme Court that halted implementation of the plan.⁹ The CPP remained mired in the judiciary through the end of President Obama's second term, and shortly after President Donald Trump took office, President Trump directed the EPA to review the CPP and propose rules to suspend, revise, or rescind the CPP altogether if appropriate.¹⁰

On October 16, 2017, the EPA formally initiated the process to repeal the CPP, announcing its intention to dismantle the plan and potentially replace it with a new plan more in line with the Trump Administration's energy priorities.¹¹ That potential was realized on August 21, 2018, when the EPA proposed the Affordable Clean Energy ("ACE") rule.¹² The ACE rule significantly scales back regulatory obligations on power companies, requiring on-site heat-rate efficiency improvements instead of the CPP's much broader carbon reduction requirements.¹³ The ACE rule will be challenged in federal court by

7. *Clean Air Act Text*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/clean-air-act-overview/clean-air-act-text> (last updated Jan. 3, 2017).

8. ROY S. BELDEN, *BASIC PRACTICE SERIES: CLEAN AIR ACT 5* (2001).

9. Blair Beasley, *Clean Power Plan/ Affordable Clean Energy Rule Timeline of Events*, BIPARTISAN POL'Y CTR., <https://bipartisanpolicy.org/clean-power-plan-timeline-of-key-events> (last visited Mar. 27, 2019).

10. Exec. Order No. 13,783, 82 Fed. Reg. 16,093, 16,093 (Mar. 28, 2017).

11. Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48,035, 48,035-36 (proposed Oct. 16, 2018) (to be codified at 40 C.F.R. pt. 60).

12. Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44,746, 44,746 (proposed Aug. 31, 2018) (to be codified at 40 C.F.R. pts. 51, 52, & 60).

13. U.S. Env'tl. Prot. Agency, *Fact Sheet Proposed Affordable Clean Energy Rule – Overview*, U.S. ENVTL. PROTECTION AGENCY (Aug. 2018), https://www.epa.gov/sites/production/files/2018-08/documents/ace_overview_0.pdf [hereinafter *Fact Sheet*].

proponents of the CPP who would prefer to see the CPP reinstated.¹⁴ It is likely that the CPP's fate will remain unsettled for quite some time.

For many political observers and stakeholders, the CPP's controversial objectives, ground-breaking ambitions, and oscillating state of legal validity became a *cause célèbre*. Depending on who you asked, the CPP represented either a bold new vision for a clean energy future, or a dramatic governmental overreach threatening America's energy security. The CPP thus became yet another lightning rod for divisive public discourse, pitting liberals against conservatives, the government against the private sector, environmentalists against industrialists.¹⁵

Perhaps not enough attention was paid to the stakeholders that were affected most by the CPP: power plants and the companies that built, owned, and operated them. For the power sector, the CPP represented a paradigm shift in the relationship between the EPA and regulated entities, creating a carbon-constrained future that would need to be reckoned with sooner or later—and ideally sooner, as many companies already knew.¹⁶

If the CPP were implemented, it would have dramatic consequences for the entire electric power supply chain, affecting existing plants, impending projects, and future investments. The uncertainty surrounding the future of the CPP also represented, necessarily, uncertainty regarding the regulatory constraints that would be placed on the power sector.

For a sector that builds and operates facilities and investments that span decades, it would be necessary to develop an optimal regulatory response strategy to the CPP. Power companies would ideally be prepared to engage state and federal regulators to make compromises and obtain

14. Adam Gustafson, *Environmental Litigation in the Trump Administration: The First Two Years*, AM. BAR ASS'N (Mar. 8, 2019), https://www.americanbar.org/groups/environment_energy_resources/publications/trends/2018-2019/march-april-2019/environmental-litigation ("The ACE rule is likely to be challenged in court by environmental organizations that oppose EPA's reversion to a traditional interpretation of the 'best system of emission reduction.'"); see also Jennifer Tharp, *Proposed Affordable Clean Energy Rule: Navigating US EPA's Clean Power Plan Replacement*, NAT'L. L. REV. (Oct. 11, 2018), <https://www.natlawreview.com/article/proposed-affordable-clean-energy-rule-navigating-us-epa-s-clean-power-plan>.

15. See, e.g., Adam Vaughan, *Obama's Clean Power Plan Hailed as US's Strongest Ever Climate Action*, GUARDIAN (Aug. 3, 2015, 6:55 AM), <https://www.theguardian.com/environment/2015/aug/03/obamas-clean-power-plan-hailed-as-strongest-ever-climate-action-bu-a-us-president>.

16. See *Two Views on the EPA Clean Power Plan*, W. VA. U.C.L., <https://www.law.wvu.edu/feature-stories/two-views-on-the-epa-clean-power-plan> (last updated Sept. 13, 2018) (citing *Regional Impacts of EPA Carbon Regulations: The Case for West Virginia: Hearing on Clean Power Plan Before the U.S. Senate Environment and Public Works Committee* (Mar. 2015) (statement of James M. Van Nostrand, Director, WVU Law's Center for Energy and Sustainable Development); *Impacts of the U.S. EPA's Clean Power Plan: Hearing on Clean Power Plan Before the U.S. Senate Environment and Public Works Committee* (Mar. 2015) (statement of Eugene M. Trisko, Attorney, United Mine Workers of America AFL-CIO)).

concessions, while at the same time readying their operations for the potential of a CPP-enforced future without sacrificing too much in the present, should such a future fail to materialize.

Power companies know all too well how difficult this balancing act can be. Despite President Obama's observation that power plants have never been limited by federal carbon emissions standards, power plants are the frequent target of regulatory attention.¹⁷ Adapting to regulatory change, however, is notoriously challenging.

At present, the power sector has not identified or developed a set of best practices for responding to regulatory change and uncertainty, though the subject is of increasing interest to stakeholders.

The Construction Industry Institute ("CII") is funding research that will unpack the challenges of regulatory adaptation in the power sector and provide lessons learned to the industry.¹⁸ The project conducted by "RT-PUI-01—Identifying and Evaluating the Impact of Regulations Throughout the Project Life Cycle"¹⁹ seeks to accomplish this task by engaging stakeholders through dynamic field studies, identifying correlations between company practices and regulatory readiness through quantitative analysis, and, finally, deepening and scrutinizing the sector's understanding of the challenge and potential solutions through case studies of regulatory change and adaptation.²⁰ This investigation of the CPP is one of three case studies developed by the RT-PUI-01.²¹

This specific study regarding regulatory adaptations in the power sector will begin by providing background on the CPP, illustrating the extensive groundwork and context that led to its development.²² The CPP's history suggests that forward-thinking power companies can identify early signs of regulatory change years before official rule changes are introduced.

Next, the study will introduce three power sector stakeholders that agreed to participate in this study by providing confidential information on their response strategy and adaptation to the CPP.²³ The stakeholders

17. See *supra* text accompanying notes 1-3; see also Vaughan, *supra* note 15.

18. CII, <https://www.construction-institute.org> (last visited Mar. 27, 2019).

19. For information on this research team's project, see Constr. Indus. Inst., *RT-PUI-01 Identifying and Evaluating the Impact of Regulations throughout the Project Life Cycle*, CII, <https://www.construction-institute.org/groups/research-teams/rt-pui-01> (last visited Mar. 27, 2019).

20. *Id.*

21. The others are focused on the power sector's adaptation to the federal Occupational Safety and Health Administration's ("OSHA") Crystalline Silica Standard, and the federal EPA's Mercury and Air Toxics Standards ("MATS").

22. See *infra* Part II.

23. See *infra* Part III.

include one owner/operator power provider, one construction contractor, and one power sector trade association.

Finally, the study will identify the major elements of regulatory adaptation—regulatory horizon scanning; risk and opportunity assessment; response strategy development; and implementation—and investigate the approaches taken by the case study participants.²⁴ In this Part, key challenges faced by the participants will be identified, and success strategies, with the potential to be broadly applicable as sector-wide best practices, will be proposed. Ultimately, the goal of this study is to provide the power sector's perspective on regulatory uncertainty and adaptation, offering lessons learned to other sector stakeholders and the public.

II. THE HISTORY OF THE CLEAN POWER PLAN

When President Obama unveiled the CPP in 2015, he called it “a plan two years in the making.”²⁵ Strictly speaking, this may be an accurate characterization of the EPA's rulemaking process, from rule development to final rulemaking.²⁶ But from the regulated entities' perspectives, the CPP was a long time coming. For a power company preparing for the changes proposed by the CPP (including broad reforms to U.S. energy policy), the winds of change must have been evident many years prior to the EPA's initiation of the CPP rulemaking process.

Technically speaking, the EPA derived its authority to promulgate the CPP from Congress, through the Clean Air Act (“CAA”) of 1963²⁷ and its subsequent amendments.²⁸ The CAA was one of the first environmental laws in the United States and has remained one of the most impactful.²⁹

The CAA requires the EPA to identify air pollutants that harm human health and the environment, and to establish emissions limitations accordingly.³⁰ The CAA regulates both stationary sources (such as power

24. See *infra* Part IV.

25. Obama, *supra* note 1.

26. See *Overview of the Basics of the Regulatory Process*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/laws-regulations/basics-regulatory-process> (last updated Sept. 25, 2018) (explaining the collaborative way in which the EPA promulgates rules and regulations).

27. Clean Air Act of 1963, 42 U.S.C. § 1857 (2012).

28. Clean Air Amendments of 1970, 42 U.S.C. § 1857(b); see also *Evolution of the Clean Air Act*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/clean-air-act-overview/evolution-clean-air-act> (last updated Jan. 3, 2017) (chronicling the modifications that have accompanied federal legislation pertaining to air pollution).

29. See generally *Evolution of the Clean Air Act*, *supra* note 28.

30. Clean Air Act, 42 U.S.C. § 7401; see also U.S. Env'tl. Prot. Agency, Criteria Air Pollutants,

plants)³¹ and mobile sources (such as vehicles) of air pollution.³² From its inception, stationary sources have been required to acquire a permit to emit certain air pollutants into the atmosphere.³³ Thus, power producers have a long history with CAA regulation.

That is not to say, however, that air pollution regulation has been consistent or predictable for power producers. Commentators and stakeholders have long debated whether greenhouse gases (“GHGs”) can or should qualify as a criteria air pollutant under the CAA, triggering GHG emissions limitations.³⁴ Or, to put it in less technical terms, it is debatable whether or not the CAA is an appropriate mechanism to combat climate change. Power companies would be forgiven for being frustrated by the lack of consistency on this point.

It should not come as a surprise to those companies, however, that a carbon-constrained future might become a reality at some point. Several efforts have been made in recent decades to restrict carbon emissions in ways that would have profound impacts on the power sector. The international community convened the United Nations Framework Convention on Climate Change in 1992 to provide a mechanism for countries to restrict their GHG emissions.³⁵ Domestically, the U.S. Congress came close to passing the American Clean Energy and Security Act of 2009 (“ACES”), which would have created a cap-and-trade scheme for GHG emissions while promoting renewable energy sources.³⁶

ACES’s ultimate failure to become law represented one early sign that an EPA-promulgated rulemaking might attempt to restrict power plant emissions in similar fashion. Frustrated with Congress’ inability to pass GHG emissions-limiting legislation, President Obama moved forward with that agenda administratively by asking the EPA to develop

U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/criteria-air-pollutants> (last updated Mar. 8, 2018).

31. Clean Air Act, 42 U.S.C. § 7411.

32. *Id.* § 7521.

33. *Regulatory Information by Topic: Air*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/regulatory-information-topic/regulatory-information-topic-air> (last updated Mar. 26, 2019) (providing a cursory overview of CAA amendments that have required various equipment to be installed to curtail air pollution).

34. See Jason Scott Johnston, *Climate Change Confusion and the Supreme Court: The Misguided Regulation of Greenhouse Gas Emissions Under the Clean Air Act*, 84 NOTRE DAME L. REV. 1, 1-2, 11-14 (2008) (interpreting the CAA through a purposive lens and focusing on Congress’s intent to mitigate localized air pollution rather than provide broader interregional relief).

35. United Nations Framework Convention on Climate Change, May 9, 1992, S. TREATY DOC NO. 102-38, 1771 U.N.T.S. 107.

36. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. §§ 242, 311, 341 (2009).

the CPP. His administration may have been emboldened, however, by the U.S. Supreme Court's landmark decision in *Massachusetts v. EPA*.³⁷ The Court found that GHGs fit within the CAA's definition of "air pollutant," and therefore merit regulatory attention.³⁸ The decision gave credence to the idea that the CAA should be used to regulate GHGs in some fashion, and helped the Obama Administration make the case that the CPP is an appropriate manifestation of that idea.³⁹

Nonetheless, it was unclear what form the Obama Administration's action would take. When the CPP was introduced to the public as a proposed rule in June 2014, it was met with alarm in some power sector circles. According to the Energy Information Administration ("EIA"), by pushing the sector to move from coal-fired power plants to natural-gas-fired power plants, or from fossil-fuel-produced power to renewable energy-produced power, the CPP would incentivize the retirement of coal-fired plants, and promote investments in natural gas and renewables.⁴⁰ In the meantime, however, existing plants might be hard-pressed to reach the CPP's efficiency goals while providing reliability to electricity markets, especially given the relatively quick turnaround time for state implementation and enforcement.⁴¹

The EPA took some of these concerns to heart when announcing the final rule in 2015, when it extended the state implementation plan deadline from 2020 to 2022, and simultaneously relaxed the phased-in emissions limitation requirements of the proposed CPP.⁴² In response to concerns from the power sector, the revised CPP also included more flexibility for multi-state regulation and compliance.⁴³

Ultimately, the CPP was structured in a way that would require power companies to comply with state-developed enforcement plans.⁴⁴ Accordingly, after the final rule was published in October 2015, power companies and their trade associations may have started working with state regulators to develop implementation plans that would achieve federal standards with minimal disruption to the power market, including

37. See *Massachusetts v. EPA*, 549 U.S. 497, 528-29 (2007).

38. *Id.*

39. Obama, *supra* note 1.

40. U.S. ENERGY INFO. ADMIN., ANALYSIS OF THE IMPACTS OF THE CLEAN POWER PLAN 14-16 (2015), <https://www.eia.gov/analysis/requests/powerplants/cleanplan/pdf/powerplant.pdf>.

41. N. AM. ELEC. RELIABILITY CORP., POTENTIAL RELIABILITY IMPACTS OF EPA'S PROPOSED CLEAN POWER PLAN 5-6 (2014), https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential_Reliability_Impacts_of_EPA_Proposed_CPP_Final.pdf.

42. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,666, 64,666-67 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60).

43. *Id.* at 64,665.

44. *Id.* at 64,662.

power providers and consumers.

However, the U.S. Supreme Court threw more uncertainty into the mix when it granted a request to stay the CPP in February 2016, pending the resolution of legal challenges to the plan.⁴⁵ The stay had the effect of halting implementation of the plan. The Court was sympathetic to the concerns of CPP challengers who believed that the EPA had overextended its authority under Section 111(d) of the CAA by moving beyond the traditional regulation of stationary sources of air pollution and into a broader attempt to set federal energy policy (a so-called “outside-the-fenceline” approach).⁴⁶ According to some, it was not clear the EPA had regulatory authority under the CAA to restrict GHG emissions from power plants in the first place.⁴⁷

While the CPP moved through the federal court system, the Trump Administration came into power, and President Trump quickly called for a wholesale review of the CPP, leading to the EPA’s proposal to repeal the plan by October 2017.⁴⁸

Less than a year later, the Trump Administration released to the public its plan to replace the CPP. The Affordable Clean Energy (“ACE”) rule was proposed by the EPA on August 31, 2018.⁴⁹ The rule would eliminate the CPP’s ambitious grid-scale (state level) carbon reduction requirements. Instead, the ACE would require onsite heat-rate efficiency improvements at power plants (or a so-called “inside-the-fenceline” approach).⁵⁰ Power companies would have significantly more flexibility to operate existing plants under the ACE rule—particularly coal-fired plants—extending the life of existing plants and avoiding onerous regulatory reviews if they can reduce their hourly emissions rates.⁵¹

45. Order in Pending Case, *Chamber of Comm. v. EPA*, 136 S. Ct. 999 (2016) (No. 15A787).

46. Jonathan H. Adler, *Supreme Court puts the brakes on the EPA’s Clean Power Plan*, WASH. POST (Feb. 9, 2016), https://www.washingtonpost.com/news/volokh-conspiracy/wp/2016/02/09/supreme-court-puts-the-brakes-on-the-epas-clean-power-plan/?utm_term=.3017c1ecd570.

47. *Id.*

48. Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 82 Fed. Reg. 48,035 (proposed Oct. 16, 2017) (to be codified at 40 C.F.R. pt. 60).

49. Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. at 44,746.

50. David Roberts, *The 6 Things You Most Need to Know About Trump’s New Climate Plan*, VOX (Aug. 25, 2018, 7:45 AM), <https://www.vox.com/energy-and-environment/2018/8/24/17772268/trump-climate-power-plants-affordable-clean-energy-clean-power-plan>.

51. Juliet Eilperin, *Trump administration proposes rule to relax carbon limits on power plants*, WASH. POST (Aug. 21, 2018), https://www.washingtonpost.com/national/health-science/trump-administration-proposes-rule-to-relax-carbon-limits-on-power-plants/2018/08/21/b46b0a8a-a543-11e8-a656-943eefab5daf_story.html?noredirect=on&utm_term=.e3988b76fab7.

According to one early study comparing the CPP with the ACE rule, carbon emissions are likely to increase if the ACE rule is finalized and implemented.⁵² However, the EPA claims that the ACE rule will lead to an estimated \$6.4 billion in compliance costs savings for power companies.⁵³ If true, the ACE rule may represent a sigh of relief for many regulated entities in the power sector who were faced with potential plants closures—or a groan of frustration for entities that had identified opportunities to create a competitive advantage in a post-CPP landscape.

As of writing (September 2018), the EPA has opened a public comment period on the proposed ACE rule⁵⁴ and is assumed to be moving forward with a finalization of the rule sometime in 2019.⁵⁵ However, the ACE rule is being challenged in federal court, likely on the grounds that it does not sufficiently regulate carbon emissions so as to satisfy the EPA's regulatory obligations under the CAA.⁵⁶ Challengers of the ACE rule will likely argue that the EPA must stick to the CPP instead. It will likely take years to determine in what form, if any, the CPP will remain when the dust settles.

All of this history of the CPP serves to illustrate two points. First, that while the CPP was officially unveiled in 2014, the possibility of a carbon-constrained future was not a novel idea and should have been on the minds of any forward-thinking business strategy unit in some fashion. Second, however, is the reality that the nuts and bolts of a carbon-constraining regulatory agenda matter greatly, and these nuts and bolts can remain in flux at the regulatory, political, or legal arenas for many years. The uncertainty created by these arenas can be extraordinarily

52. Amelia T. Keyes et al., *Carbon Standards Examined: A Comparison of At-the-Source and Beyond-the-Source Power Plant Carbon Standards* 1-2, 6, 8 (Resources for the Future, Working Paper No. 18-20, 2018).

53. *Fact Sheet*, *supra* note 13 (“EPA projects that replacing the CPP with the ACE rule could result in \$3.4 billion in net benefits, including \$400 million annually. Under some scenarios, avoided compliance costs total \$6.4 billion compared to the CPP.”); Nathanael Johnson, *The EPA's coal plan is a ripoff for Americans, according to the EPA*, GRIST (Aug. 22, 2018), <https://grist.org/article/the-epas-coal-plan-is-a-riporff-for-americans-according-the-epa>.

54. *Affordable Clean Energy Rule Proposal: Public Hearing*, U.S. ENVTL. PROTECTION AGENCY, <https://www.epa.gov/stationary-sources-air-pollution/forms/affordable-clean-energy-rule-proposal-public-hearing> (last updated Nov. 1, 2018).

55. Robin Bravender, *EPA has 'Extremely Ambitious' Timeline for Climate Rules*, GOVERNOR'S WIND & SOLAR ENERGY COALITION (Oct. 24, 2018), <https://governorswindenergycoalition.org/epa-has-extremely-ambitious-timeline-for-climate-rules> (“EPA says it intends to finalize both its replacement for the Clean Power Plan and changes to standards related to methane emissions from the oil and gas industry in roughly six months.”).

56. Julia Pyper, *New York and California Lead the Charge Against Climate Rule Rollbacks*, GREENTECH MEDIA (Nov. 2, 2018), <https://www.greentechmedia.com/articles/read/new-york-california-lead-the-charge-against-trump-over-climate-regulations#gs.0wkp0a>.

difficult for regulated entities to adapt to when making operational and long-term investment decisions that pertain to power-producing assets.

III. INTRODUCING THE CASE STUDY PLAYERS: AN OWNER, A CONTRACTOR, AND A TRADE ASSOCIATION

This study obtained the participation and insights of three major players in the power sector representing three common sector groups: one owner/operator, one engineering, procurement, and construction (“EPC”) contractor, and one industry trade association. While the three study participants are described generally in this Part, the purpose of this study is not to provide a detailed account of their organizational experiences with the CPP. Rather, the purpose is to identify commonalities and insights that can support qualitative analysis of challenges and success stories when adapting to regulatory change.

As the research project making this study possible is supported by the Construction Industry Institute (“CII”), this study strictly follows CII’s policy for data confidentiality. All data provided to CII and the research team in support of research activities by participating organizations are considered confidential information. The data provided by participating individuals and companies are not communicated in any form to any party other than CII-authorized academic researchers and designated CII staff members.⁵⁷ The information and insights provided in the rest of this Article have been removed of identifying information. The organizational descriptions below serve to paint a general picture of the participating stakeholders only.

A. Company A: Owner/Operator

Company A is an owner/operator in the energy sector. It is a large gas and electric utility company in the United States, serving millions of utility customers across several states. Company A and its subsidiaries operate coal, natural gas, nuclear, and renewable power-producing facilities, among others.

Company A has developed a relatively sophisticated corporate-level regulatory adaptation framework, which includes human and technological resources dedicated to tracking regulatory changes, developing scenario plans and risk assessments, participating in the

57. Verification of the information below can be provided by CII representatives and/or the project’s academic team, Ali Mostafavi (mostafavi@tamu.edu), Ed Jaselskis (ejjasels@ncsu.edu), or Jin Zhu (jzhu@uconn.edu).

administrative rulemaking process, and ultimately, reacting to regulatory change. Nonetheless, as an owner/operator of long-term power-producing assets, the sometimes fickle pendulum swings of regulatory change and federal energy policy remain challenging to navigate, and the resources dedicated to regulatory adaptation are costly.

B. Company B: EPC Contractor

Company B is an EPC contractor in the energy sector, although it also provides services in the mining, water, and transportation sectors. Company B is one of the largest EPC power contractors in North America. Company B provides EPC services on a range of power-producing projects, including coal, natural gas, nuclear, hydroelectric, solar, wind, and geothermal power sources.

Like other EPC contractors, Company B is perhaps not as vulnerable to the significant regulatory disruption a rule like the CPP presents to owners/operators of major power-producing assets. Compared to Company A, Company B has not invested as heavily in the early identification and reaction planning to regulatory change, in part because it is primarily contracted to undertake shorter-term services (an owner/operator, by contrast, must be concerned about regulations that might affect the complete life cycle of an asset). Still, Company B is heavily invested in identifying future business opportunities and market shifts, and the CPP required significant attention from corporate-level company officials, particularly financial analysts.

C. Company C: Trade Association

Company C is a private trade association that represents power companies in the United States. Its members serve utility customers in fifty states, reaching most American households. Naturally, the trade association's members are involved in all manner of power-producing projects, including coal, natural gas, nuclear, and renewable energy.

The trade association, while not directly regulated by the EPA or the CPP, represents members heavily affected by EPA regulatory change generally, and the CPP in particular. It was therefore heavily involved in anticipating the substantive content of the CPP in advance of its proposal, analyzing the salient aspects of the plan upon its unveiling, lobbying for modifications, and preparing its members for changes forecasted by the CPP. With an ear to its members, the trade association is well-positioned to understand the challenges of regulatory adaptation and uncertainty with respect to the CPP.

IV. THE ELEMENTS OF EFFECTIVE REGULATORY ADAPTATION TO THE CLEAN POWER PLAN

At the heart of this study are the elements of effective regulatory adaptation to the CPP identified by the case study participants. These elements have been developed through challenges and success stories alike. While not a perfect analog to other regulatory changes presenting widespread reforms and uncertainty, these elements have been identified by the CII research team as the most significant and noteworthy aspects of regulatory adaptation for companies and other stakeholders to keep in mind. The key findings for each element follow below.

A. Horizon Scanning

The first step toward effective regulatory compliance and adaptation begins before the regulatory change is ever formally announced. For regulated entities, this means developing a robust horizon scanning process. Horizon scanning is a technique for identifying early signs of future changes in the regulatory landscape by constantly evaluating emerging risks and opportunities.⁵⁸ According to the Organization for Economic Cooperation and Development (“OECD”), horizon scanning provides the background necessary to develop scenario plans and adaptation strategies.

The method calls for determining what is constant, what changes, and what constantly changes. It explores novel and unexpected issues, as well as persistent problems and trends, including matters at the margins of current thinking that challenge past assumptions.⁵⁹

For regulated entities, horizon scanning the regulatory landscape is a critical first step to successful regulatory risk mitigation and adaptation and proffers several benefits. If power companies can anticipate regulatory changes well before they are required to comply with them, they can secure extra lead time to assess risks and opportunities and develop a response strategy.

Effective horizon scanning also allows for more opportunities for a power company to engage with the regulators drafting a new rule, or with trade associations equipped to engage regulators in parallel. Perhaps most importantly, horizon scanning should tend to reduce compliance costs in the long run, as regulated entities can make changes to their own future

58. *Overview of Methodologies*, OECD, <https://www.oecd.org/site/schoolingfortomorrow/knowledgebase/futuresthinking/overviewofmethodologies.htm> (last visited Feb. 19, 2019).

59. *Id.*

operations and planned facilities before they become operational and costlier to adjust.⁶⁰

In an ideal scenario, horizon scanning can provide a competitive advantage that a power company can use to gain market share in an environment in which regulatory change is creating new business opportunities. Company A (owner/operator) self-evaluated its horizon scanning processes as an organizational strength, believing that while its investment in horizon scanning was significant, the returns were evident to high-level executives who recognized the company's nimble adaptive capabilities relative to competitors. Indeed, when questioned on the subject of the CPP in particular, Company A's subject matter expert tasked with early identification of emerging environmental regulations suggested that the CPP was a natural evolution of the Obama Administration's agenda to create a carbon-constrained future.

For Company B (EPC contractor), the fact that it does not own power-producing assets gives it some flexibility to perceive regulatory changes as future market trends, and therefore, horizon scanning looks more like an opportunity assessment than a risk assessment.⁶¹

Of course, horizon scanning is at the heart of Company C's organizational purpose as a trade association. It exists in part to provide a horizon scanning service to its member companies, who may not be as well-positioned to engage in robust horizon scanning themselves.

Naturally, horizon scanning is not as easy or simple as its inherent logic may suggest.⁶² From a practical standpoint, horizon scanning is difficult to pull off. Companies must be constantly tracking developments emerging from state and federal regulatory agencies, courts, federal and state legislatures, new technologies, and regional, national, and international energy markets. This often requires engagement and relationship-building with regulators, trade associations, and even environmental groups.

Internally, it can be challenging to communicate the importance of emerging developments from the corporate level down to operating units—such as individual capital projects or assets—or from the corporate level up to high-level executives who sign off on adaptation strategies

60. See William D. Eggers, Mike Turley & Pankaj Kishnani, *The Regulator's New Toolkit: Technologies and Tactics for Tomorrow's Regulator*, DELOITTE INSIGHTS (Oct. 8, 2018), https://www2.deloitte.com/content/dam/insights/us/articles/4539_Regulator_4-0/DI_Regulator-4-0.pdf.

61. See *infra* pp. 118, 120.

62. See generally D. Brown, *Horizon Scanning and the Business Environment – The Implications for Risk Management*, 25 BT TECH. J. 208 (2007).

necessitated by regulatory change.⁶³ Company A, while proud of its horizon scanning infrastructure, cited communication as the biggest area for improvement in this regard (including better communication with regulators and interest groups). Company C, similarly, noted that it is a constant challenge to determine when and how to communicate emerging developments up to the CEO level or down to lower level company representatives.

Aside from the operational challenges, horizon scanning can also incur a financial cost. Many companies rely on an internal staff of subject matter or legal/regulatory experts. Company A has adopted this strategy, reporting that its internal compliance team (at the corporate level) has grown 900% as a result of the increased need to identify regulatory changes early.

Companies can outsource their horizon scanning to outside consultants, law firms, or technologies, though this too comes at a cost. Company B's horizon scanning and assessment of the CPP relied on an internal team of subject matter experts, a law firm tasked with interpreting the text of the CPP and its legal implications, and a consulting firm tasked with projecting the impacts of the CPP on future asset retirements and investments.

Identifying and understanding future regulatory changes is not the only aspect of horizon scanning requiring financial investments. Engaging with regulators may require a dedicated team in Washington D.C. (or in state capitals) and/or resources dedicated to presenting a compelling case to regulators.

Engaging regulators in this way is a key component to an effective horizon scanning process.⁶⁴ First, because communicating with regulators helps to understand the regulators' perspective and intent. When a regulated entity understands the regulatory goal of a new rule, it is better positioned to propose an alternative means of accomplishing the same ends. Second, by engaging regulators with evidence-based arguments, entities may be able to secure beneficial modifications to proposed regulations.⁶⁵

63. Tom Groenfeldt, *Taming The High Costs Of Compliance With Tech*, FORBES (Mar. 22, 2018, 11:08 AM), <https://www.forbes.com/sites/tomgroenfeldt/2018/03/22/taming-the-high-costs-of-compliance-with-tech>; see also Sally Elliott, *On the horizon: Why firms must look ahead to remain competitive*, LEGAL SUPPORT NETWORK (Sept. 25, 2018), <https://www.legalsupportnetwork.co.uk/practice-management/resources/horizon-why-firms-must-look-ahead-remain-competitive>.

64. *Horizon scanning for legislative and regulatory change*, THOMSON REUTERS, <https://legalsolutions.thomsonreuters.co.uk/en/trends-insights/horizon-scanning.html> (last visited Oct. 29, 2018).

65. The Author also interviewed federal agency officials, who complained that, too often,

As a trade association, Company C knew that the EPA would not be impressed by mere complaints that the CPP would negatively affect its member power companies, for example. Instead, it recognized that to change minds and affect the final CPP rule, the trade association would need to present data-driven evidence to the EPA, showing that the agency's goals could be accomplished in similar fashion by adopting a slightly modified rule that power companies can more easily comply with. Or the trade association would need to provide robust data to demonstrate that an aspect of the CPP's requirements was unrealistic and in need of review.

Either way, these types of evidence-based interactions require significant time and resources to develop. This is especially true of large players in the power sector that operate or have interests in multiple states (such as Companies A, B, and C), and therefore need to be aware of upcoming changes to state laws and maintain relationships with many different state agencies.

Finally, while power companies can put themselves in the best possible position to anticipate regulatory changes by developing a robust horizon scanning infrastructure, regulatory agencies can still promulgate final rules that deviate significantly from proposed rules, or introduce new compliance requirements that may not have been anticipated.⁶⁶ While this reality was not particularly problematic with respect to the CPP (the final CPP was, generally speaking, more lenient than the proposed CPP), it can prove frustrating that agencies' broad rulemaking powers maintain an element of uncertainty for regulated entities.

B. Stakeholder Engagement

Engaging stakeholders, especially regulators, is not just an effective adaptation strategy for purposes of proactively identifying short- and long-term regulatory changes. Stakeholder engagement is a critical resource that can be utilized to improve horizon scanning processes, risk and opportunity assessments, and response and compliance strategies.

Stakeholder engagement can be defined as the formal and informal interactions companies undertake with regulators and other stakeholders in the regulatory process.⁶⁷ Regulators are clearly a key constituency in

regulated entities protest a proposed rule on ideological grounds. The regulators indicated that they would be open to reconsidering their proposals if regulated entities instead put forward evidence-based alternatives.

66. See *Chocolate Mfr. Ass'n. v. Block*, 755 F.2d 1098, 1101, 1103-05 (4th Cir. 1985) (noting that final rules must represent a "logical outgrowth" of the proposed rule).

67. This Subpart on stakeholder engagement adapts material from a forthcoming article co-

this regard, but other stakeholders, including nongovernmental organizations (NGOs), trade associations, academics and think tanks, and organized labor, among others, can provide information and influence outcomes. Stakeholder engagement can improve the effectiveness and efficiency of regulation development processes by increasing the level of trust between regulators, regulated entities, and other stakeholders engaged in the regulatory process. In particular, the engagement between regulators and regulated entities builds transparency, fosters understanding, and improves the predictability of regulatory outcomes.

The success of stakeholder engagement depends on early, frequent, and quality engagements with all relevant stakeholders. For effective engagement with regulators, a cooperative mindset approach fosters an open environment encouraging mutual awareness of intent and key concerns. Becoming knowledgeable about the intent of a regulation may facilitate regulators' evaluation of solutions based on industry data and evidence.

By aggregating and evaluating data from companies, regulators can further incorporate technical and operational aspects of regulatory solutions for purposes of arriving at the original regulatory goal. While it is sometimes necessary for companies to adopt a hardline position on a new regulation, such intransigence tends to lead regulators to discount concerns and may damage the relationship for the next engagement. Hence, companies should take a cooperative approach when possible in engaging with regulators. Furthermore, industry associations should take a major role in identifying solutions rather than focusing on lobbying to prevent a certain regulation from being implemented in the first place.

As a trade association, Company C expressed many of these principles. In fact, the company's officials suggested that their relationships represented their most valuable resource and their primary obligation.

Trade associations must constantly cultivate the relationships they have with member companies. This is easier said than done in many cases. Company C pointed out that its member companies include nuclear power-producing companies, which might be in favor of carbon restrictions, and coal power-producing companies, which tend to disfavor carbon restrictions. The trade association must therefore maintain a delicate balancing act in order to represent all of its constituents effectively.

Of course, trade associations must also establish and maintain relationships with regulators. The more collaborative and professional the relationship, the more likely the regulator will take meetings with industry representatives and consider their concerns and proposed amendments. Company C reinforced this idea by noting that it has close relationships with regulator staff that stay with an agency through political changes.

Companies A and B echoed these sentiments. Both companies operate in many different states, necessitating relationship development with regulators at the federal and multi-state level. As an owner/operator, Company A stressed the need to work collaboratively with regulators and local siting officials when negotiating the development of capital projects. As an EPC, Company similarly identified stakeholder engagement as a critical tool for ensuring smooth operation of an asset without unexpected interruptions.

C. Risk and Opportunity Assessment

Once a regulatory change has been identified, companies that typically respond well to the change often exhibit a robust capability to assess the negative risks presented by the change, as well as the positive opportunities. Risks can take many different forms, often culminating analytically in the cost of compliance (or non-compliance) given various compliance pathways.

At the outset, a basic risk assessment is conducted to determine if an impending regulatory change is likely to create any risks or opportunities for a company's projects or assets. This stage helps to clarify whether additional resources are needed to conduct a more in-depth, secondary-stage scenario planning risk assessment. Scenario planning allows a company to envision a series of possible regulatory outcomes and then focus on the most likely outcomes for purposes of conducting a detailed risk analysis that identifies response options and compliance costs.⁶⁸

The CPP implicated severe impacts for the power sector, and owners/operators in particular. Because the CPP required states to establish plans that include GHG emissions limitations and compliance frameworks on power plants⁶⁹ while moving away from coal-fired generating facilities, owners such as Company A were faced with major potential compliance costs as the CPP shifted the types of large-scale

68. J.B. Ruhl, *Building Scenarios of Future Legal Practices*, AM. BAR ASS'N (Aug. 9, 2017), https://www.americanbar.org/groups/young_lawyers/publications/tyl/topics/law-practice-2050/building_scenarios_future_legal_practices.

69. U.S. ENVTL. PROT. AGENCY, *supra* note 6, at ES-1, 1-7, 3-21 to 3-23.

power-producing facilities that would be feasible to operate in the future. These costs included reformulating plans for future assets, and more significantly, adapting existing coal-fired and natural-gas-fired power plants to the requirements of the CPP, including potential early retirement or major retrofitting of existing capital projects/assets.

Perhaps because the cost of regulatory compliance (including CPP compliance) can be so great for power producers,⁷⁰ Company A has developed a risk assessment methodology that periodically (at least annually) monitors risk at both the enterprise and project levels. At the corporate level, the environmental affairs and resource planning teams conduct regular scenario planning to analyze the risks associated with a relevant range of policy outcomes. The scenarios are proxies for a wide variety of possible forms of environmental pressure that could occur over the long-term life of asset decisions. Company A reports satisfaction with this relatively comprehensive approach. Company A rarely evaluates its risk assessment process as excessive, and often credits the process for reducing long-term costs of compliance.

Nonetheless, Company A has not identified the risk assessment process as a competitive advantage or entrepreneurial opportunity. Rather, it is a necessary means to mitigate risks and future costs. Company B, by contrast, recognized a wealth of business opportunities presented by the CPP. As an EPC contractor involved in coal, natural gas, and renewable energy operations, the CPP presented a threat to Company B's coal-based offerings. But Company B's core business is in natural gas, which the CPP promoted to a certain extent. Similarly, the CPP boosted Company B's investments and opportunities in the renewables and natural gas markets. Had the CPP moved forward, Company B was prepared to respond by exploiting these opportunities and focusing on its expertise in natural gas and renewables.

Company B's experience further demonstrates the importance of risk and opportunity assessments because its horizon scanning process had not identified some of the more nuanced elements and disruptions the CPP would present when it was announced to the public. Although Company B had already anticipated the decline of the coal industry, the CPP in its proposed form was somewhat of a surprise, and the company had not anticipated a carbon-constrained future in the form of the CPP specifically.

Nonetheless, Company B felt nimble enough as a contractor that it could respond to the CPP's impacts on energy sourcing well enough that

70. *Id.* at 3-21 to 3-22.

the CPP would create more positive business opportunities than negative risks and compliance costs. Company B may have been one of the few construction contractors to have conducted an internal review of the entirety of the CPP, which may have provided a competitive advantage and set it apart from competitors (not to mention prepare the company well for the promulgation of the final CPP rule).

This may be a common dynamic for contractors, who often do not bear the costs of regulatory changes or changes in law in their contracts with owners/operators, and are therefore inherently less at risk of long-term regulatory uncertainty. Owners/operators, on the other hand, are often left holding the long-term-asset bag, so to speak, and may need to focus on minimizing risks and compliance costs.

D. Response Strategy Development

Having identified and understood the regulatory change, assessed the risks to existing assets and capital projects, and explored opportunities presented, the next element of regulatory adaptation is the development of a corporate level or project level response strategy. Response strategies can take many forms and may reflect the company's core adaptation priorities.⁷¹ Fundamentally, response strategies must make trade-offs regarding the desired levels of redundancy desired by the company, as well as the margin of compliance the company is comfortable with.

On one end of the spectrum, companies can adopt a response strategy that prioritizes immediate compliance costs and known regulatory requirements. Lowest cost strategies are attractive from a short-term financial perspective, though they might miss opportunities to prepare for future changes in the regulatory landscape.

Lowest cost responses often form a piecemeal approach to regulatory adaptation, responding to changes on an ad hoc basis when necessary. This lowest cost approach is often attractive to owner power companies responsive to consumers and pre-set rate returns that limit cost absorption, or EPC contractors that have fixed cost contracts that do not allow for contractual change orders.

On the other end of the spectrum is a "no regrets" strategy.⁷² A no

71. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE: THE IPCC RESPONSE STRATEGIES 7-8 (1990). For more examples of different possible response strategies, see generally *id.*

72. Dr. Paul B. Siegel, "No Regrets" Approach to Decision-Making in a Changing Climate: Toward Adaptive Social Protection and Spatially Enabled Governance, WORLD RESOURCES INST., <https://www.wri.org/our-work/project/world-resources-report/no-regrets-approach-decision-making-changing-climate-toward> (last visited Mar. 28, 2019).

regrets strategy is designed to comply with regulatory requirements as a baseline, while harnessing the regulatory adaptation process initiated by the company to add in other corporate or project level reforms that position the company for future anticipated regulatory changes.⁷³

A no regrets strategy realizes that operational and business strategy changes can be difficult to initiate and carry out, and utilizes the necessary adaptations required by the regulatory change to bring about forward-thinking adaptations that minimize future risks or create future business opportunities. The downside, naturally, is that a no-regrets strategy often incurs higher implementation costs, as the company may be carrying out adaptation techniques that are not strictly required by the regulatory change in question.⁷⁴

There are, of course, a wide variety of intermediate response strategies available to regulated entities. Some companies prefer a wait-and-see approach to major proposed rules to the CPP, understanding that those rules will inevitably be challenged in court and may take years to enforce.⁷⁵ The CPP's sector-wide impacts on energy production and provision, in particular, created a fascinating opportunity for companies to develop a wide range of response strategies. This study found, however, that companies who adopted a no-regrets approach often evaluated their response plan positively.

In addition, it is important to note that response strategy development is a continuous process. An initial strategy may appear ideal when a rule is proposed, but with more information that strategy may need to be modified. Or, in some cases, the final rule deviates significantly from the proposed rule and requires amendments to the company's response strategy.

Company A adopted a no-regrets strategy to the CPP, reporting a preference for no-regrets strategies as a general approach to regulatory change and uncertainty. While the company acknowledges that a no-regrets strategy may have higher up-front costs, ultimately the company feels better prepared for future regulatory scenarios and believes the long-term cost to consumers is lower as a result of its approach.

Company B adopted an intermediate approach, having the luxury as an EPC contractor to wait and see how the CPP would play out, while readying itself to invest in natural gas and renewables. Company B was

73. Intergovernmental Panel on Climate Change, *No Regrets Options*, IPCC, <https://archive.ipcc.ch/ipccreports/tar/wg3/index.php?idp=292> (last visited Mar. 28, 2019).

74. *Id.*

75. JANE A. LEGGETT, CONG. RESEARCH SERV., R41973, CLIMATE CHANGE: CONCEPTUAL APPROACHES AND POLICY TOOLS 4 (2011).

already anticipating a reduction in coal investments and an increase in natural gas operations. To the extent the CPP mirrored market trends already in place, Company B was well-equipped to respond. But an aggressively forward-thinking no-regrets strategy may not have been necessary for Company B, as its role as a contractor involves less long-term risk so long as the company's expertise and investments are diversified.

Company C, as a trade association, was heavily involved in advising its member companies and developing a sector-wide response strategy. Its strategy development process kicked into high gear upon the unveiling of the proposed CPP. At that point, the trade association assumed responsibility for digesting and interpreting the CPP as quickly as possible, disseminating to member companies the significance and likely impact of the CPP.

The trade association did not dictate to member companies what their response strategy should be, but it engaged in dialogue with member companies to gauge the sector's concerns and determine a regulator engagement strategy for the sector as a whole to influence the final CPP in favor of its constituents. This included the accumulation and dissemination of salient data and case studies that would resonate with regulators and compel them to consider amending the CPP. The trade association's philosophy with respect to its regulator engagement strategy is to offer a solution to the agency that it can work with. This, too, can be a critical component of a regulatory adaptation strategy.

E. Implementation

Finally, regulated entities must carry out their regulatory response strategies. While a rather obvious point on the surface, this element is significantly less apparent to operationalize, as well as fraught with pitfalls.

During the initial planning for a capital project, regulatory compliance teams must coordinate with engineering and design teams to ensure that project specifications are in compliance with regulatory requirements and the company's response strategies. Implementing a regulatory response strategy on an operational asset would require retrofitting or reconsidering existing project features and processes.

Company A and Company B echoed the same concern with regard to implementing a regulatory adaptation strategy: communication. Response strategies are often developed at the corporate level, and must be communicated to utility clients, across business units, and down to

individual projects and assets. Project managers are not always enthusiastic about implementing reforms mid-life cycle, while other business units may not care to adopt the required changes as a priority. Sometimes it can be difficult to justify a response strategy with short-term costs and long-term benefits to CEOs or other high-level executives.

Regardless, Company A and Company B stressed the importance of regular communication throughout the regulatory change (rulemaking) process, briefing colleagues on potential changes coming down the pipeline, and providing a clear message when it comes time to implement reforms.

As the CPP itself required individual states to create the nuts and bolts of the regulatory requirements, and the CPP was repealed before states developed implementation plans, neither Company A nor Company B were able to demonstrate how their response strategies to the CPP were carried out. Nonetheless, both believe their significant investments in understanding the CPP and developing a response strategy were worthwhile. Both companies are now prepared for a CPP-like rulemaking in the future (whether the current repeal attempt falls through or a future EPA proposes a similar plan), and both are adjusting to shifts in market demands for coal, natural gas, and renewables.

As a trade association, Company C's implementation process was largely focused on the time period between the EPA's proposed CPP rule and the publication of the final rule. Trade association representatives implemented their strategy in three steps. First, they undertook an internal deep dive analysis of the contents of the proposed CPP, discussing the text until it was understood well enough to engage in external discourse. Second, the trade association went directly to its member companies to: (1) educate the companies (especially smaller members) about the CPP and its likely impacts; (2) obtain consensus on the sector's response strategy as a whole; and (3) collect data and case studies to present to regulators. Finally, the trade association engaged regulators directly and indirectly, meeting with EPA staff, submitting written comments to the proposed rule, and supporting member companies to directly engage regulators themselves. Although hectic, the trade association expressed satisfaction with this implementation plan, believing it to be a factor in the EPA's changes to the final CPP.

V. CONCLUSION

The CPP represents a unique regulatory change. Its potential influence on the U.S. energy sector is profound, and yet at the moment it

appears that potential may go unrealized. And despite that, the goals it seeks to achieve—moving power generation from coal to natural gas to renewables⁷⁶—may come to fruition anyway.

Idaho provides a compelling case that the CPP's broad regulatory objectives may be within reach, whether or not the CPP is repealed and replaced by the ACE rule. In December 2018, the Author of this Article interviewed representatives of Idaho Power for an on-the-record discussion of the electric utility's current and future energy profile.⁷⁷ The discussion made clear that while the CPP may not come into force, at least some regulated entities are taking proactive steps to move toward a natural gas or renewables future.

Idaho Power is an electric utility servicing southern Idaho and eastern Oregon.⁷⁸ The core of its power generating portfolio includes seventeen hydroelectric plants along the Snake River and its tributaries.⁷⁹ Idaho Power also operates three natural gas plants, and owns shares in three out-of-state coal-fired power plants in Oregon, Nevada, and Wyoming. However, the company has initiated a "Path Away from Coal," announcing plans to close down or withdraw from the Oregon and Nevada plants.⁸⁰ It appears to be exploring the feasibility of withdrawing from the Wyoming plant as well.

As a result of its heavy reliance on hydroelectric generation, Idaho Power's energy portfolio is substantially ahead of the game compared to the national average for electric utilities. Hydropower comprises nearly half (46.4%) of Idaho Power's energy mix, with renewables (19.3%), out-of-state-generated coal (17.5%), and natural gas (7.5%) comprising the bulk of the remainder.⁸¹ In 2019, the company set a goal of being 100% clean energy reliant by 2045.⁸² It aims to achieve the goal by continuing to rely on hydropower, while phasing out coal and natural gas. Already it has brokered a deal to purchase 120 megawatts of solar power to add to its energy portfolio.⁸³

Idaho Power expressed confidence in its ability to comply with the

76. U.S. ENVTL. PROT. AGENCY, *supra* note 6, at ES-1 to ES-2.

77. Interview with Idaho Power representatives (Dec. 11, 2018).

78. *Company Facts*, IDAHO POWER, <https://www.idahopower.com/about-us/company-information/company-facts> (last visited April 8, 2019).

79. *Id.*

80. *Path Away From Coal*, IDAHO POWER, <https://www.idahopower.com/energy/delivering-power/emissions-data> (last visited April 8, 2019).

81. *Clean Today. Cleaner Tomorrow.*, IDAHO POWER, <https://www.idahopower.com/energy/clean-today-cleaner-tomorrow> (last visited April 8, 2019).

82. *Id.*

83. *Id.*

Clean Power Plan. In part this is likely due to the fact that its energy portfolio already looked like the type of portfolio the CPP was designed to promote. Not every regulated entity is so well-positioned to comply with a carbon-constrained future. Energy producers in states that are not blessed with extensive hydropower potential will have a more challenging path toward a clean energy future.

Nonetheless, Idaho Power appears to be embracing the end-state being promoted by the CPP. The company's representatives see a carbon constrained future as likely one way or another and are putting the company on a path to compliance. Even if regulated entities are not required to meet renewable energy benchmarks in the near future, the company can still live with its approach without regret; consumers appear to value the company's clean energy priorities, and Idaho Power's pledge is generating positive press and goodwill nation-wide.⁸⁴

Due to its built-in hydroelectric advantages, Idaho Power cannot be used to set realistic expectations for all electric utilities. However, the company's mindset towards energy generation is replicable, and illustrates many of the best practices discussed in this Article. Forward-thinking, proactive energy companies will be better-positioned to comply with the environmental regulatory changes of the future.

For regulated entities in the power sector, the CPP continues to create enormous uncertainty. Legally speaking, the CPP remains stayed by the U.S. Supreme Court, and the Trump Administration is moving forward with its repeal and replacement with the ACE rule.⁸⁵ But it remains to be seen if the ACE rule will enter into force, or if legal challenges prove successful in modifying the ACE rule or reinstating the CPP. The CPP is in many ways, then, an ideal illustration of the levels of regulatory uncertainty power companies are faced with.

Despite this uncertainty, this study has demonstrated that power companies of all types have developed proactive strategies to adapt to regulatory change and the CPP. Long-term and regular horizon scanning, sophisticated risk and opportunity assessment, ambitious response strategy development, and an integrated implementation plan have been identified by stakeholders as critical components of an effective regulatory adaptation framework. Developing these components

84. Bill Chappell, *Idaho Utility Spurns Coal, Pledges 100 Percent 'Clean' Energy By 2045*, NPR (March 27, 2019, 2:22 PM) <https://www.npr.org/2019/03/27/707225124/idaho-utility-spurns-coal-pledges-100-percent-clean-energy-by-2045>.

85. Beasley, *supra* note 9; Lawrence Hurley & Valerie Volcovici, *U.S. Supreme Court Blocks Obama's Clean Power Plan*, SCI. AM., <https://www.scientificamerican.com/article/u-s-supreme-court-blocks-obama-s-clean-power-plan> (last visited Feb. 24, 2019).

institutionally and maintaining them in the face of limited time and resources will remain challenging. But regulatory change and uncertainty is a likely mainstay in the power sector. This study suggests that disruption can be minimized if companies remain proactive and engaged.