

WEATHERING THE STORM:
THE DURABILITY OF ENERGY AND ENVIRONMENTAL POLICIES
IN THE WAKE OF 21ST CENTURY CORPORATE MALFEASANCE

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Abstract

The Trump Administration's attempts to reverse a wide range of federal policies direct attention to investigations of policy durability and policy change. The California electricity crisis, the Gulf oil spill, the Solyndra controversy, and the Dieselgate vehicle emissions scandal provide four empirical situations for understanding which dynamics shape policy durability and policy change in the twenty-first century. This paper examines the two main contemporary approaches for predicting policy durability and change by creating a model for each approach utilizing the variables most important to the approach. This paper then applies those models to the four cases to evaluate the accuracy of each model for each of the four cases. The results demonstrate that the two main contemporary approaches – one centered on policy design and policy results to ensure policy durability and another centered on the ability of major events to trigger news coverage, popular interest, and policy change – exhibit weaknesses when applied to real world cases from the twenty-first century.

Introduction

To achieve a meaningful legacy, a policy must survive not merely the gauntlet of enactment and initial launch but also persist over the long-term. Enactment and launch are the first and second periods in the policy life-cycle and some policies unravel in those early stages. For those which continue, the third test then awaits: Durability. Policies which manage to survive may generate the positive transformations their proponents originally envisioned. This study will examine why some energy and environmental policies are more likely to endure than others.

The presidency of Donald Trump provides an opening for renewed consideration of policy durability. The Administration and its allies in Congress have overturned, or have sought to overturn, a slew of policies installed during President Obama's two terms, especially in the energy and environmental domain. Examples range from the announced departure from the Paris Climate Agreement to proposals to expand offshore oil and gas drilling.¹ Presumably, any of these actions will, in turn, become the target for repeal by a future Democratic administration. The jury remains out on whether the Trump Administration's efforts will produce a lasting, consequential change in energy and environmental policy. Its efforts place renewed attention on the explanations available for understanding which federal policies are likely to endure and which are not, especially those policies in the energy and environmental sphere.

Five decades ago, classic political science scholars contended policies are likely to be "sticky" due to the power of special interests."² Even when changes would bring broad benefits

¹ The White House, "Statement by President Trump on the Paris Climate Accord," June 1, 2017, <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>; U.S. Department of the Interior, "Secretary Zinke Announces Plan For Unleashing America's Offshore Oil and Gas Potential," Press Release, January 4, 2018 <https://www.doi.gov/pressreleases/secretary-zinke-announces-plan-unleashing-americas-offshore-oil-and-gas-potential>.

² Bryan D. Jones, Tracy Sulkin, and Heather A. Larsen, "Policy Punctuation in American Political Institutions," *American Political Science Review* 97 (2003): 151-169; Christopher R. Berry, Barry C. Burden, and William G.

to the general public, relatively small but intensely focused groups can intervene to successfully thwart reform and preserve the policies and programs favorable to their narrow interests, as noted scholar Mancur Olson argued in his landmark book, *The Logic of Collective Action: Public Goods and the Theory of Groups*.³ Because interest groups and bureaucratic agencies have continuing agendas and policymakers have limited resources to devote to altering or terminating extant policies, the *status quo* will often prevail, especially for those policies which had demonstrated their initial political support was sufficient to result in their original enactment. That rather static perspective remained central to the understanding of policy formation and durability for decades.

More recently, a growing band of scholars have recently begun to examine policy durability with greater detail and empirical evaluation. They have assembled compelling explanations for their findings that I divide into broad, but not mutually exclusive, categories: policy-centric and event-centric. Yet there has been little interplay thus far between the two camps and little overlap in the cases they examine. As my study below will illustrate, both perspectives exhibit shortfalls when their theories are tested against a diverse set of cases from the energy and environmental policy realm.

Methodology

In this essay, I examine how best to understand the durability of energy and environmental policies after episodes of private sector malfeasance generate additional attention to those policies. The study proceeds through four main steps. First, I present the two major

Howell, "After Enactment: The Lives and Deaths of Federal Programs," *American Journal of Political Science* 54, no. 1, (2010): 1-17.

³ Mancur Olson, Jr., *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge, Massachusetts: Harvard University Press, 1965).

overarching paradigms explaining the durability of policies. Second, I select four cases each representative of different categories within the large energy and environmental policy domain. I also construct models. Third, I apply these two models to the four cases to generate a set of results measuring the model's accuracy. Finally, I then evaluate the accuracy of the models in these four cases and discuss explanations for their low accuracy.

Explanatory Models and Cases

Only recently has the academic literature begun to focus in earnest on examining which policies persist years and even decades while others quickly experience significant modification or outright repeal. I divide these recent studies into two major camps – the Policy Perspective and the Event Perspective. This section presents the central features of each of these two broad perspectives and the variables each has found crucial to understanding policy durability.

Policy Perspective

One major perspective is the policy perspective. Scholars sharing the Policy Perspective contend that certain key factors shape policy longevity and policy health after the enactment. Eric Patashnik, Barry Rabe, Leah Stokes, David Lewis, and others in this camp have examined a wide variety of policies across a vast range of jurisdictions, sectors, and eras to discover if policies with endurance and impact share certain characteristics more than those policies which have later encountered substantial modification, erosion, and reversal.⁴ In a nutshell, this policy-

⁴ Eric M. Patashnik, *Reforms at Risk: What Happens After Major Policy Changes Are Enacted* (Princeton, NJ: Princeton University Press, 2008). <https://doi.org/10.1111/j.1540-5907.2009.00414.x>. Jeffery A. Jenkins, and Eric M. Patashnik, editors, *Living Legislation: Durability, Change, and the Politics of American Lawmaking* (Chicago: University of Chicago Press, 2012). Barry G. Rabe, "The Durability of Carbon Cap-and-Trade Policy," *Governance* 29 no. 1, (2016): 103-199, <https://doi.org/10.1111/gove.12151>. Barry G. Rabe, *Can We Price Carbon?* (Cambridge, Mass: Massachusetts Institute of Technology Press, 2018). Leah C. Stokes, *Power Politics: renewable energy policy change in the U.S. states*, (doctoral dissertation, Massachusetts Institute of Technology, 2015) <http://hdl.handle.net/1721.1/99079>. David E. Lewis, "The Adverse Consequences of Politics of Agency Design for

centric perspective links policy endurance to three broad categories I label Institutional Insulation, Political Composition, and Policy Feedback.

Institutional Insulation

Institutional Insulation encompasses those design features which allow a policy, program, or agency to survive and thrive, despite the interventions of current and future political opponents.⁵ A policy's opponents in the executive, judicial, or legislative branch may attempt to destroy it entirely or undermine its effectiveness through a variety of means, including assaults on its organizational structure, appropriations, and personnel. Policies with legal, administrative, or procedural shields against such attacks will be more resilient and durable. Anticipating such attacks are likely, a policy's champions can intentionally design it with such shields and fortify it for the battles yet to come.⁶ An agency, for example, may be granted mechanisms to allow it to generate its own funding to immunize it from annual appropriations contests.⁷ Installing a well-shielded policy through statute, rather than executive proclamation or agency rulemaking, will also heighten its durability because opponents may only be able to fully undo the measure when they simultaneously control the White House and both legislative chambers. On the other hand, a chief executive who finds it expedient to use his or her executive authority to hastily proclaim an

Presidential Management in the United States: The Relative Durability of Insulated Agencies," *British Journal of Political Science* 34:3 (Jul. 2004), pages 377-404. <https://jstor.org/stable/4092326>.

⁵ Jeffrey A. Jenkins and Eric M. Patashnik, "Living Legislation and American Politics," in Jeffrey A. Jenkins, and Eric M. Patashnik, editors, *Living Legislation: Durability, Change, and the Politics of American Lawmaking*, (Chicago: University of Chicago Press, 2012), page 14-15.

⁶ Herbert Kaufman, *Are Government Organizations Immortal?* (Washington, D.C.: The Brookings Institution, 1976). Daniel P. Carpenter, 'Stochastic Prediction and Estimation of Nonlinear Political Durations: An Application to the Lifetime of Bureaus', in Diana Richards, ed., *Political Complexity: Nonlinear Models of Politics* (Ann Arbor: University of Michigan, 2000). David E. Lewis, "The Politics of Agency Termination: Confronting the Myth of Agency Immortality," *Journal of Politics* 64 (2002), pages 89-107.

⁷ Richard Lazarus, "Super Wicked Problems and Climate Change: Restraining the Present to Regulate the Future," *Cornell Law Review* 94 (2009).

unshielded policy could soon find that same policy overturned by the next executive struck down by an activist court or undermined by vexatious appropriators.

The ratings I will assign stem from the design of the enacted policy and its ability to protect itself (and the resources it needs to achieve its goals) within the governing structure. A policy with high institutional insulation has protections against reversal and/or erosion while one with low insulation is vulnerable to a myriad of political, legal, and resource challenges.

Political Composition

The Political Composition factor examines the characteristics and strength of the political coalition supporting the policy and its ability to retain influence through subsequent “elections, retirements, demographic shifts, redistricting, important events, and large-scale changes in economic and social conditions” that are continually remaking the cast of policymakers and the issues on which they focus.”⁸

The variable reflects the inherit ebb and flow in democratic systems and provide a measure of a policy’s ability to retain political support through those changes. At the time of policy enactment, certain elected officials and political coalitions hold sway. Their tenure may last for merely a moment or an entire era, but eventually, others will replace them. Berry, Burden, and Howell note that “the greater governing coalitions of current and enacting Congresses, the more likely a program is to shrink, or die; the more similar are the two Congresses, the more likely a program will be preserved or expanded.”⁹ For contemporary U.S. politics, this means conservative Republicans are more likely to seek to reserve policies originally enacted by progressive Democrats and vice versa. This may seem intuitive for elections have consequences.

⁸ Ibid, page 15.

⁹ Christopher R. Berry, Barry C. Burden, and William G. Howell, “After Enactment: The Lives and Deaths of Federal Programs,” *American Journal of Political Science* 54, no. 1, (2010): 1-17.

Yet the most durable policies have the fortitude to remain in place despite shifts in which party or ideology controls the policymaking branches. Empirical investigation may even uncover how durable policies were able to survive despite such swings. The most interesting cases for this sub-category are those when the victory of an opposing political party would presumably doom a program, yet the new officeholders do not scuttle the policy. The dog that doesn't bark is a signal that further investigation would be needed to explain how this result came to be.

Policy Feedback

The Policy Feedback variable measures the ability of a policy to achieve its goals, minimize its costs, produce results for its proponents, undermine its detractors, and forestall alternatives.¹⁰ It reflects how a policy can reshuffle the relative strength of supporters and detractors and the intensity of their political engagement over time. An effective policy achieving its goals can be a powerful force ensuring its continuation as its beneficiaries defend it. A trade policy benefiting one narrow domestic sector will tend to have that sector's support. The effect, however, can be more complex and far-reaching. Social Security expanded the civic participation of elderly Americans and the GI Bill stimulated those veterans who participated in the program to similarly become more engaged.¹¹ The mirror image of the dynamic can also have an effect – the policy can weaken detractors and/or create incentives for them to abandon their desire to return to the *status quo ante*. The inverse – a policy failing to produce results, generating harms, imposing costs, or otherwise causing more harm than good – would also be a factor reflected the Policy Feedback category. While Olson's argument had focused on reasons for policy durability stemming from continuing intense support from narrow interests repeatedly defending a policy,

¹⁰ Ibid, page 15.

¹¹ Andrea Louise Campbell, *When Policies Make Citizens: Senior Political Activism and the American Welfare State* (Princeton, NJ: Princeton University Press, 2003); Suzanne Mettler, *Soldiers to Citizens: The G.I. Bill and the Making of the Greatest Generation* (New York: Oxford University Press, 2005).

this measure is inherently dynamic. The policy may generate positive gains and negative costs which may vary over time and vary across constituencies. The evolving situation may, for instance, generate new supporters and diminish the intensity of the original opponents by restructuring their incentives. Generating positive political, economic, or social results can generate political support for the policy and become a self-sustaining loop. New information and events can also bring to light aspects in which the policy is succeeding or failing and therefore alter which constituents defend a program and how intensely they do so.¹²

Event Perspective

In contrast to those in Policy Perspective camp and their focus on variables tied to a policy's design, partisanship, and results, adherents of the Event Perspective focus on how a sudden, large-scale event can disrupt the political *status quo* and provide a window of opportunity for political actors to press for policy change. In this perspective, the major factors are magnitude of the event itself, the news coverage of the event and public reception of that coverage, and characters of the policy domain in which relevant advocacy organizations would bring policies forward in the post-event period. As the name implies, the Event Perspective places the central role of major, shocking events at its core. Rather than contending that events solely drive all policy change or that every event has a policy result, however, scholars have tended to isolate three distinct filters connecting events and event-driven policy change.

Magnitude

The first variable concerns the nature of the event itself: its magnitude must simply be significant. Events involving greater harm to more people across wider geographic area will be

¹² Jeffrey A. Jenkins and Eric M. Patashnik, "Living Legislation and American Politics," in Jeffery A. Jenkins, and Eric M. Patashnik, editors, *Living Legislation: Durability, Change, and the Politics of American Lawmaking*, (Chicago: University of Chicago Press, 2012), page 15. Stokes (2015).

more likely to drive policy change. A severe but localized flash flood killing three motorists is undeniably unfortunate but small in scale. A massive tsunami bringing death and destruction to hundreds of thousands across an entire region rises to the level of catastrophic.¹³

Focusing Event

The second variable centers on the connections between an event itself and the quantity and quality of the attention it attracts to determine if the incident meets the perspective's criteria for a focusing event. John Kingdon explained the important distinctions separating *focusing events* from the more general class of potential focusing events. An event's innate magnitude cannot alone determine if it will generate news coverage and attract the attention of mass audiences and political elites. Focusing events capture media attention not merely because they are large but also because they are rare, sudden, visible, dramatic, and comprehensible. Quintessential examples of focusing events are large natural disasters, such as earthquakes and hurricanes, and human-induced incidents, such as airplane crashes and large terrorist attacks. They must also unfold in a location suitable for attracting significant and sustained media coverage. News crews will be able to report on a major wildfire near Los Angeles much more easily than a similarly sized one in the remote reaches of the Yukon, for example.¹⁴

Another important issue is the attributes which make the coverage of a large-scale event fascinating, empathetic, and digestible to the public. I unite these characteristics with the variable I label *Adhesion*. Accounts of the event filled with horrific violence, dramatic video, salacious

¹³ Birkland (2006): 3-5.

¹⁴ John W. Kingdon, *Agendas, Alternatives, and Public Policies* (Boston: Little, Brown, 1984); Thomas A. Birkland, *After Disaster: Agenda Setting, Public Policy, and Focusing Events* (Washington, D.C.: Georgetown University Press, 1997); Thomas A. Birkland, *Lessons of Disaster: Policy Change after Catastrophic Events* (Washington, D.C.: Georgetown University Press, 2006); Melissa K. Merry, *Framing Environmental Disaster: Environmental Advocacy and the Deepwater Horizon Oil Spill* (New York: Routledge, 2014).

details, dastardly villains, and sympathetic victims are more likely to generate intense public interest. On the other hand, coverage blanketed with highly technical details and intangible concepts but lacking in avenues for personal connection will generate less intense interest. Some events have features which reporters and commentators can deploy to attract public interest while others will be too technical, impersonal, or exotic. Those events which qualify as focusing events disrupt politics-as-usual, drawing greater attention to previously ignored issues and offering the raw ingredients for mobilizing political action when people become more passionately connected to an event.

Interest Group Dynamics

When the public encounters a high volume of news coverage on matters which are comprehensible and emotionally affecting, the demand for elected officials to “do something” will rise. Events, however, do not explain themselves and do not automatically provide their own policy solutions. Causal explanations can help fill the gap.¹⁵ When looking to translating ambiguous but insistent demands for action into enacted policies, officials seeking input will frequently call upon with the established experts and advocates. According to Kingdon, Sabatier, and Birkland, the nature of the interest groups available for consultation and analysis and the relationship between those groups tend to generate different political contests leading to different chances for policy change. Some policy domains are technical, nonpolarized, and dormant. In such realms, subject matter experts delve into issues and potential solutions isolated from the policymaking realm. They are brought forward in moments of crisis, asked to reveal their specialized solutions, and then they return to their research facilities and their politically disengaged habits. Birkland describes the field of earthquake preparedness and building codes as

¹⁵ Deborah A. Stone, “Causal Stories and the Formation of Policy Agendas,” *Political Science Quarterly* 104, No. 2 (1993): 281-300.

a prime example of this type of policy domain. The energy and environmental domain, however, has been filled with constantly engaged, politically astute, and somewhat polarized competitors for decades. These groups appreciate the policy issues, the current political winds, and how brokered, compromise solutions may be possible. The more moderate groups can, and frequently will, strike deals over policy while the more extreme factions on both sides denounce the concessions necessary to forge the negotiated settlement. When the moderates on both sides are strong, policy changes are likely to occur but unlikely to be transformative. When the extremists are strong, and the policy domain is more polarized, the two sides are unlikely to be willing to abide the concessions necessary to forge a mutually agreeable policy. In such circumstances, policy changes are unlikely.¹⁶

As Birkland has noted, the energy and environmental (E&E) communities have a well-established interest group (including those representing private sector interests) operating in a well-established political domain. The groups have differing goals and employ differing tactics for achieving those ends. These E&E interest groups understand the matters in dispute and engage with the public and the political sphere seeking to advance their goals through mainstream political channels. When an event bursts upon the political domain, these groups will attempt to seize opportunity to provide pre-formulated causal explanations, assign blame on their usual opponents, and propose already crafted policy solutions. They can, however, also be willing to forge compromise solutions so policies addressing matters of urgent concern can move forward. Neither side will accept obvious and overwhelming defeat but those on the defensive in a post-event environment will recognize their weakened political position and will therefore be

¹⁶ Kingdon (1995); Paul A. Sabatier, "And Advocacy Coalition Framework of Policy Change and the Role of Policy-Oriented Learning Therein," *Policy Sciences* 21 (1988): 120-168; Birkland (1997).

more willing to conceded on some policy elements.¹⁷ For the Event Perspective model, this propensity for change results in a relatively high chance for policy change in any instance. It is, however, important to note that the policy changes emerging from this environment are likely to be moderate rather than extreme or radical.

Case Selection

Testing the two paradigms to understand policy durability and policy change requires the selection of an appropriate range of cases. I have selected four cases with some shared characteristics and some differences. They are the California Electricity crisis of 2000-2001, the Gulf oil spill of 2010, the Solyndra episode of 2011-2012, and the so-called Dieselgate scandal that emerged in late 2015. All four fall squarely in E&E realm and had significant events emerge during this century, providing an opportunity to examine which policy changes, if any, have unfolded in the years since the stories first broke. Malfeasance by at least one private company contributed significantly to the precipitating event in all four cases. In order to test various components of the Policy Perspective and Event Perspective, the four cases exhibit differences in the types of policies, the types of agencies involved, the size and evolution of the events which unfolded, and the policy changes which followed.

CRISIS EVENT	SECTOR	CENTRAL PERPETRATOR	MAIN GOVERNMENT ACTORS	POLICY AND/OR PROGRAMS
California Electricity	Electricity	Enron	FERC; DOE; State agencies, including California Public Utility Commission	Electricity 'deregulation' in Energy Policy Act of 1992; FERC Orders 888, 889, 2000; California AB 1890
Gulf Oil Spill	Offshore Drilling	BP	Minerals Management Service; Coast Guard	Outer Continental Shelf Lands Act of 1953; Federal Oil and Gas Royalty Management Act of 1982; Oil Pollution Act of 1990

¹⁷ Birkland (2007), pages 77-97; Merry (2013).

Solyndra	Energy Innovation	Solyndra	DOE Loan Program Office (LPO); Office of Management and Budget (OMB)	Title XVII of the Energy Policy Act of 2005. Federally loan guarantee program for innovative energy projects, notably 1703 and 1705.
Dieselgate	Passenger Vehicles & Vehicle Emissions	Volkswagen	EPA, CARB	Clean Air Act emission standards, testing, and enforcement.

Figure 1: Selected Cases

Model Construction

When evaluating the ability of a theoretical perspective to capture accurately which policies are most likely to endure and which are most likely to be undermined or terminated across a variety of cases, establishing shared metrics facilitates productive comparisons. With that objective, I create a model for each perspective that partially captures or reflects the main components of that model. In each case, the matter of central interest is the degree of difference between what the paradigm would predict for policy durability and the empirical record of policy change (or lack thereof). The overall prediction hinges on the variables important to the paradigm's categories and sub-categories. For the sake of simplicity, I apply basic scales with values ranging from 1-5, with 1 being very low or negligible and 5 being extremely high, to each category for each case study. I will assign values to each variable guided by the empirical record and provide explanatory notes as necessary. For each perspective, a model unfolding in three main steps best allows the model to reflect the perspective's main variables. The first step creates a measure of the *prediction* offered by the perspective for policy durability or change. The second step evaluates the empirical record for indications of policy durability or change and assigns a value to that record. The third step compares the results from steps one and two to determine how accurate or inaccurate the prediction was for one case.

Policy Model

The first step for the Policy Perspective seeks to determine the chance for policy durability to emerge from the characteristics of the case under consideration. As outlined

previously, the Policy Perspective contends institutional insulation, political composition and policy feedback are the main components for enhancing policy durability. The first step in applying the Policy Perspective Model is applying those measures and their sub-components to create ratings in each category. The result is the Comprehensive Durability Prediction (CDP). A sample schematic for Step 1 in applying the **Policy Perspective Model**:

POLICY PERSPECTIVE	Rating	Explanatory Notes
Institutional Insulation		
Method of Enactment (High for Statutes, Low for Executive Actions)		
Autonomy of Agency (e.g., independent commissioners)		
Assured Resources (e.g., independent funding stream or self-financing)		
Political Composition		
Presidency - Degree of difference since original enactment		
U.S. Congress		
Relevant Federal Agency (if applicable)		
Policy Feedback		
Demonstrating Administrative Competence		
Supplying Obvious Net Benefits to General Public		
Supplying Obvious Net Benefits to Specific Interests		
Undermining Support for Status Quo Ante (stakes in new arrangement)		
Undermining and/or Demobilizing Original Opponents		
Inflicting Harms and/or Mobilizing New Opponents		
Comprehensive Durability Prediction – Policy Model		

Figure 2: Comprehensive Durability Prediction – Policy Model

The second step in the Policy Model examines the empirical record for indications of policy durability. Main variable is, of course, policy survival. If an existing policy remained in full effect, policy durability was apparently high. If the policy in question “ceases to exist as when a law is repealed,” what Jenkin and Patashnik term “policy death,” then policy change will

be high. If policies did survive in law but suffered from reductions in their scope, or resources or personnel, then policy durability would be low. Overall, the prime issue would be Policy Survival while Policy Stability and Resource Continuation would be additional measures of policy durability and health. The Comprehensive Durability Record (CDR) would be the average of these measures. Step two in the Policy Model is rendered schematically here:

Empirical Record	RATING	NOTES
Policy Survival		
Policy Stability		
Resource Continuation		
Comprehensive Durability Record - Policy Model		

Figure 3: Generic Comprehensive Durability Record (CDR) – Policy Model

Measuring the difference between the paradigm’s prediction and the empirical record to determine the paradigm’s accuracy in a case occurs in the third step. The key issue here is not the size of the scores resulting from steps one and step two but *the size of the gap* between them. When the paradigm’s overall prediction projected a highly durable policy or high propensity for change and the empirical record reflects a similar course of events did occur, then two scores will closely match and the difference between them would be small. The prediction in such a case would be highly accurate. On the other hand, the larger the variation, positive or negative, the less accurate prediction based on the paradigm turned out to be. The result will be the Perspective Accuracy (PA) rating for each perspective in each case. The generic representation for Perspective Accuracy is below:

ACCURACY	RATING
Comprehensive Durability Prediction	
Comprehensive Durability Record	
Perspective Accuracy – Policy Model	

Figure 4: Generic Perspective Accurate (PA) – Policy Model

Event Model

I evaluate the Event Perspective using an Event Model which shares many similarities to the Policy Model. While the Policy Perspective focuses on predicting policy durability, event-driven policy change scholars look for drivers of political change. Where the Policy Model had a Comprehensive Durability Prediction, the Event Model has a Comprehensive Change Prediction (CCP). The scale will remain 1-5 and 5 will remain the highest value. Those factors which hold the high potential for change will be higher while those reinforcing the status quo will have lower values.

For the first sub-component in the Event Model, I assign a value to the event based on the apparent or reported human, economic, and environmental costs it generated to capture the raw magnitude of the event in question. The smallest events earn a magnitude value of one and the largest earn a rating of 5.

For the second sub-component, I deploy a two-prong test to determine if an important event fully meets the standards of a focusing event. The first prong is quantitative and seeks to capture the amount of national news coverage an event received. Using the *New York Times* and *the Wall Street Journal* as proxies for mainstream and respected daily news sources with national distribution and national readership, I tally the number of articles appearing in those publications over eleven separate six-month periods, using the online search term feature available on each publication's website.¹⁸ Reposted or repeated articles are excluded from the tally as are articles which offer only a preview of a full article appearing elsewhere. I utilize a 'zero' period to reflect the number of articles containing that search term in the six months *preceding* the event to establish a baseline amount of coverage for that term. Ten more periods follow every six months

¹⁸ The *New York Times* online search feature: <https://www.nytimes.com/search>. The *Wall Street Journal* online advanced search feature <https://www.wsj.com/search/term.html>.

in length, starting with the month the event began. These periods are numbered for the year (1-5) of the start of the event and the six-month period (A or B) of the year. For each six-month period, I provide the number of distinct articles containing the specified term that appeared in that publication during that period. A chart, available for each case in Appendix A, allows for the visual display of the number of articles for each period and the fluctuations that unfolded during the 10 six-month periods which followed the event. The rating for the ‘news coverage’ sub-category varies directly with a number of articles revealed in those tallies. Events with the highest number of news articles will earn higher “news coverage” scores in this category.

For the second prong, I deploy the “Adhesion” variable. This metric follows from the recognition that the quantity of coverage the news outlets provide to the public will not always align perfectly with the levels of popular interest, comprehension, and emotional connection. Events with aspects which attract greater public interest, allow greater public understanding, and generate empathetic or emotional responses will earn higher scores in the “Adhesion” sub-category.

The third and final metric for the Event Model’s first step examines the features relevant to transforming a focusing event into policy change with the Interest Group Dynamics variable. As noted previously, the most prominent and influential interest groups (both pro-environment and pro-business) in the E&E policy domain can compete and campaign against each mightily but they also have exhibited a willingness to forge relatively pragmatic compromise measures. Borrowing from the analysis presented by Birkland, I universally apply a high blanket value of 4 in each case to reflect an aspect common to the E&E domain: the propensity of more moderate factions to work with their moderate opposition to generate non-radical policy change.

The mean of the Magnitude, Focusing Event, and Interest Group Dynamic Event provides the Comprehensive Change Prediction (CCP) for the Event Model. A sample schematic for step one in the Event Model:

EVENT PERSPECTIVE	RATING	EXPLANATORY NOTES
Magnitude		
Human Lives Lost, Health Impacts		
Economic Harms (property damaged, jobs lost, business revenue lost, investor value lost)		
Environmental Harms (wildlife killed, natural areas polluted)		
Focusing Event		
National News Coverage		
Adhesion		
Interest Group Dynamics	4	
Comprehensive Change Prediction (CCP)		

Figure 5: Comprehensive Change Prediction (CCP) – Event Model

The second step in the Event Model largely resembles the second step in the Policy Model. There are, however, two important differences. First, the Event Model continues to focus on measures of change, so the scale is again inverted – factors reflecting a higher propensity for change receive higher scores (with the maximum still set at 5). Second, the Event Model incorporates a more expansive range when considering policy change than the Policy Model. Scholars within the Policy Perspective have exhibited a narrow focus in their studies in both small-N and large-N evaluations. They tend to look at discrete policies or policy types and note if they endured or did not endure. Scholars within the Event Perspective, on the other hand, have frequently deployed a wider view of policy changes occurring across a whole policy domain. An environmental catastrophe could result in a broad range of policy changes. To solely focus on the fate of one sole policy could miss the effect that the event had across an entire domain, failing to

see the forest for the trees. Incorporating the empirical record in the Event Model, therefore, requires an expansive consideration of policies across a whole domain, noting which policies changes followed the event. The Comprehensive Change Record (CCR) therefore resembles the CDR of the Policy Model but has a wider scope for its considerations. Step two in the Event Model is rendered schematically here:

Empirical Record	RATING	NOTES
Policy Survival		
Policy Stability		
Resource Continuation		
Comprehensive Durability Record - Event Model		

Figure 6: Generic Comprehensive Change Record (CCR) – Event Model

As with the Policy Model, the third and final step in the Event Model determines the theory's accuracy by measuring the difference between the prediction and the empirical record. The nomenclature changes in the variable reflects the Event Model's focus on change rather than durability but the ultimate measure remains Perspective Accuracy. As before, each case will have an overall PA rating for the Event Model. The generic schematic representation for Perspective Accuracy for the Even Model is below:

ACCURACY	RATING
Comprehensive Change Prediction	
Comprehensive Change Record	
Perspective Accuracy – Event Model	

Figure 7: Generic Perspective Accurate (PA) – Event Model

Case 1: California Electricity Crisis

In the six decades following the New Deal, the Public Utility Holding Company Act (PUHCA), the Public Utility Act (PUA), and the Federal Power Act (FPA) provided the core legal framework for arrangements governing the generation, transmission, and distribution of electricity within the United States. The FPA had also established the Federal Power Commission, the precursor to the Federal Energy Regulatory Commission (FERC), an independent regulatory agency that eventually came to have authority over interstate power transmission, regional wholesale electricity markets, and other interstate energy activities. These federal statutes and relevant Commission rulings established the overarching framework for the sector while state governors, legislators, and public utility commissions (PUCs) oversaw the specific policies within their respective states. Under these arrangements, vertically integrated electric utilities – investor-owned utilities (IOUs), municipally-owned public utilities, and electric cooperatives – arose in a patchwork across the country. to generate, transmit, and distribute electric power to ratepayers. In exchange for monopoly status with their limited territory, each utility had the responsibility to provide reliable power to their customers at just and reasonable rates by relevant federal and state laws. By the mid-1990s, the U.S. power industry had 3,000 electric utilities providing 3.1 trillion kilowatt-hours (kWh) annually at a total cost of more than \$210 billion to millions to residential, commercial, and industrial customers.¹⁹

The wide-ranging Energy Policy Act of 1992 (EPACT92) signaled change would be coming to the electricity sector. Introduced by a Democratic Representative, passed overwhelming by the Democratic-majority House and Senate with considerable Republican support in both chambers, and signed into law by Republican President George H.W. Bush, the

¹⁹ Energy Information Administration, The Changing Structure of the Electric Power Industry: Selected Issues (1998) https://www.eia.gov/electricity/policies/legislation/california/pdf/chg_str issu.pdf, page ix.

Act altered a large swath of traditional energy policy and especially so in the country's electricity sector.²⁰ It overturned the regulatory framework which had governed the country's electric utilities, providing states and regions considerable flexibility and inviting them to create new policies allowing for greater competition, more consumer choice, and a larger role for market forces. The Act also enlarged FERC's "authority to order wheeling under a wide range of conditions," seeking to stimulate "more competitive and less vertically integrated electric power industry" while leaving tough choices to states governments regarding how best to address specific arrangements in their jurisdictions.²¹ Additionally, power generation by non-utilities began to emerge after the Public Utility Regulatory Policies Act (PURPA) became law in 1978. Independent power producers remained a slim segment of the wholesale power market, but their emergence eroded the theory that natural monopolies were inherent to the electricity sector and prompted the realization that market-based competition could play a larger role.²²

While legislative moves in Washington towards restructuring the electricity sector then largely stalled, the three landmark FERC actions in the second half of the decade pushed restructuring ahead. Exerting its authority under the FPA to implement Federal electricity policy, FERC in 1996 issued Order 888 and Order 889, directing utilities to disaggregate, or unbundle, their generation operations from their transmission infrastructure and allow for open, non-discriminatory access to the latter.²³ The orders also fostered the formation of Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) to manage traffic on

²⁰ Congress.gov, H.R.776 - Energy Policy Act of 1992 All Actions, <https://www.congress.gov/bill/102nd-congress/house-bill/776/all-actions>

²¹ The National Regulatory Research Institute, A Synopsis of the Energy Policy Act of 1992: New Tasks for State Public Utility Commissions, June 1993
<http://ipu.msu.edu/wp-content/uploads/2016/12/Costello-Energy-Policy-Act-93-7-June-93-1.pdf>, page iii.

²² California Senate Energy, Utilities, and Communications Committee, "Background on Electricity Historical Context – 1900-1996," <https://seuc.senate.ca.gov/backgroundonelectricitypolicy>

²³ Federal Energy Regulatory Commission, "Major Orders & Regulations - Electric 2000-1994," <https://www.ferc.gov/legal/maj-ord-reg/archives/electric/2000-1994.asp>

transmission networks and oversee wholesale power markets. Then, in 1999, FERC Order 2000 pushed forward the formation of unaffiliated RTOs. In regions which erected RTOs, electricity utilities underwent restructuring and power generation began to shift from a rate-regulated regime to a more competitive and market-driven system while state PUCs and FERC continued to retain a broad array of regulatory authorities.²⁴

California became the first state to wholeheartedly seize the opportunity to restructure its electricity markets when it passed Assembly Bill 1890 (AB 1890) in 1996. The measure and its numerous provisions laid out how the Golden State would implement the complex transition to and operation of a less regulated electricity sector. Once the final version included numerous special provisions to relieve the concerns of particular interests, the bill had secured the support of a formidable coalition, with each segment anticipating different gains. Merchant generators and energy traders saw opportunities for greater profits in a more competitive and fluid market no longer dominated by the state's large incumbent IOUs. The big private utilities also believed they could fare well, especially after a provision satisfied their concerns regarding stranded assets. With California having some of the highest electricity rates in the country, large industrial interests in the state hoped that greater competition and direct access to suppliers would bring down their electricity costs. Citizen groups anticipated benefits in other provisions guaranteed in the bill – a 10% reduction in small customers' rates and public-interest funding supporting environmental and low-income programs. The final product was widely supported. The Democratic-majority state legislature passed it unanimously and Republican Governor Pete Wilson signed it into law.²⁵

²⁴ Congressional Research Service, "The Federal Power Act (FPA) and Electricity Markets," R44783, last updated March 10, 2017. <https://crsreports.congress.gov/product/pdf/R/R44783>

²⁵ California State Senate; U.S. Energy Information Administration, "Electricity – Provisions of AB 1890," <https://www.eia.gov/electricity/policies/legislation/california/assemblybill.html>

After a transition period filled with many positive signs, huge spikes in wholesale prices began to roil California's electricity sector in 1999. The turbulence only increased in 2000. Despite relatively low aggregate demand in the state, localized price surges and sudden outages struck multiple areas and produced widespread disruptions and economic damage in 2000 and 2001. While estimates vary, the crisis inflicted economic damage totaling over \$40 billion on California.²⁶ “By 2002, the reform lay in ruins, overwhelmed by electricity shortages and skyrocketing prices for wholesale power. Utilities were bankrupted, the state became the buyer of last resort, and the institutions established by the 1996 reform were dismantled.”²⁷

Cross-cutting explanations and accusations flew. Officials in Washington and Sacramento enacted a series of stop-gap measures but seemed unable or unwilling to halt the calamity. Governor Gray Davis, who had followed Wilson in 1999, appeared to many especially hamstrung and inept. During and after the crisis, suspicions arose that manipulative practices were “gaming the system” to artificially cut generation, constrain transmission, and heighten the wholesale power price spikes, sometimes twenty times previous prices, to maximize the profits of some traders and generators. While initial investigations were unable to uncover definitive proof, eventually it became clear that unusual and unanticipated market conditions combined with the new reforms to set the stage for the unscrupulous exploitation. One major company – Enron – became the focus of much concern and ire.

A slew of civil and criminal investigations uncovered monumental malfeasance by Enron executives, both during the California electricity crisis and throughout the company's diversified operations. Not a full year after California's power crisis abated, internal company documents

²⁶ Ibid.

²⁷ Chris Weare, The Public Policy Institute of California, *The California electricity crisis: Causes and Policy Options* (2003) <https://www.ppic.org/publication/the-california-electricity-crisis-causes-and-policy-options/>.

emerged and clearly showed the company's traders had indeed engaged in multiple schemes to create artificial supply shortages and transmission bottlenecks to raise wholesale prices and boost the company's profits.²⁸ In addition to audio tapes revealing Enron traders had intentionally and callously acted to manipulate the markets,²⁹ other evidence emerging in the middle of the decade showed dozens of Enron executives had engaged in widespread accounting fraud, securities violations, and other criminal activities. *Fortune* once ranked the company the fifth largest in America (by revenue) but Enron saw its house of cards undergo a sudden and swift collapse.³⁰ "Its 2001 bankruptcy filing was the largest in American history at the time. Estimated losses totaled \$74 billion."³¹ Many of its senior executives were convicted of numerous criminal charges years later and several served prison time. The company's sudden downfall dashed the nest eggs of millions of investors and eliminated the jobs of thousands of Enron employees. Even Grey Davis lost his job when California voters turned him out of office in a rare recall election in October 2003. The restoration of some normalcy in California's electricity sector and the exposure of Enron's dirty dealings did not save him. Officials in Sacramento ended the state's experiment in electricity deregulation and returned to a more traditional approach.

At the federal level, however, the electricity policy followed a different route. The Administration of President George Bush and Vice President Dick Cheney took office with the crisis accelerating in California. As a series of FERC Chairmen resigned in quick succession and the Bush Administration installed replacements, the Commission shifted from an absolutist

²⁸ Richard A. Oppel, Jr., and Jeff Gerth, *The New York Times*, "Enron Forced Up California Prices, Documents Show," May 7, 2002, <https://www.nytimes.com/2002/05/07/business/enron-forced-up-california-prices-documents-show.html>.

²⁹ CNN, "Tapes: Enron plotted to shut down power plant," February 5, 2005, <http://www.cnn.com/2005/US/02/03/enron.tapes/>.

³⁰ CNN, "Enron Fast Facts," Last updated April 24, 2019, <https://www.cnn.com/2013/07/02/us/enron-fast-facts/index.html>; *Fortune*, Fortune 500 for 2002, http://archive.fortune.com/magazines/fortune/fortune500_archive/full/2002/.

³¹ CNN, "Enron Fast Facts."

embrace of free-market stances and resistance to price caps towards a reluctant acceptance of the need for stop-gap measures. Even so, FERC's inventions attempted to resolve the immediate crisis rather than comprehensively reversing electrical sector restructuring in California or nationally. The President and Vice President took some political heat for the federal government's lack of strong action, even as calls from California officials grew. With the White House and the Congress in the hands of pro-market, pro-energy business conservatives during this period, those favoring restructuring and expanded wholesale market competition had powerful allies. In the end, there was no federal reversal on electricity deregulation. EPACT92 and FERC orders that had California to commence restructuring remained in effect. Indeed, the major energy policy law of the decade – the Energy Policy Act of 2005 (EPACT05) – only extended the centrality of FERC's role in electricity regulation and reiterated support for competition in wholesale power markets and the expansion of long-distance transmission lines.³² The underlying federal policies and perspectives encouraging states to restructure their electricity markets remained in place.

Due to California's horrendous experience with restructuring, leaders in many other states reevaluated how best to move forward with restructuring their electricity sectors, or whether to retain their traditional regulatory framework and vertically integrated utilities. Deregulation advocates argued that the Golden State had implemented a disjointed and partial deregulation scheme and its deeply flawed structure was to blame for the state's woes. Critics maintained that California's debacle demonstrated that traditional regulatory approaches reliably produced better results on balance than the inherently risky path restructuring offered.³³ In the

³² Federal Energy Regulatory Commission, "Energy Policy Act of 2005 Fact Sheet," August 8, 2006, <https://www.ferc.gov/legal/fed-sta/epact-fact-sheet.pdf>.

³³ Alan Murray, "Enron in California Teaches A Lesson About Deregulation," *The Wall Street Journal*, May 14, 2002, <https://www.wsj.com/articles/SB1021322830346635720>; Jim Yardley, "Texas Learns in California How Not To

two decades following the California crisis, many states embraced electricity sector restructuring and wide-scale management of wholesale power markets by regional entities continued to expand. Seventeen states and the District of Columbia had implemented partial or complete restructuring reforms by 2010 and RTOs and ISOs were managing approximately 60% of the electric power supply by 2009.³⁴

The brutal electricity crisis in the West and Enron's stunning collapse also prompted reform measures beyond the energy sector. Exposure of Enron's inner workings with similar scandals engulfing other major corporation, including Tyco, Global Crossing, and WorldCom. These scandals unleashed significant public concern regarding foul play among corporate leaders and the security of personal retirement accounts. The sweeping Sarbanes-Oxley Act (SOX), passed in 2002, sought to address these concerns by strengthening government oversight and disclosure standards for corporate financial statements and accounting practices.³⁵

Case 2: The Gulf Oil Spill

The core foundations for twenty-first-century policies governing offshore oil and gas drilling took shape in 1953 with the passage of the Submerged Lands Act and the Outer Continental Shelf Lands Act (OCSLA). These Acts established federal control for waters beyond state jurisdiction, tasked the Department of Interior with responsibility for offshore mineral development, and set the stage for ongoing contests between those seeking to ensure environmental goals and those seeking to maximize production and the associated

Deregulate," *The New York Times*, January 10, 2001, <https://www.nytimes.com/2001/01/10/us/texas-learns-in-california-how-not-to-deregulate.html>; *The Wall Street Journal*, "Is It Time to Deregulate All Electric Utilities?" November 13, 2016, <https://www.wsj.com/articles/is-it-time-to-deregulate-all-electric-utilities-1479092461>.

³⁴ U.S. Energy Information Agency, "State electric retail choice programs are popular with commercial and industrial customers," May 14, 2012, <https://www.eia.gov/todayinenergy/detail.php?id=6250>; U.S. Energy Information Agency, "About 60% of the U.S. electric power supply is managed by RTOs," April 4, 2011, <https://www.eia.gov/todayinenergy/detail.php?id=790>.

³⁵ Allison Fass, "One Year Later, The Impact of Sarbanes-Oxley," July 22, 2003, *Forbes*, https://www.forbes.com/2003/07/22/cz_af_0722sarbanes.html#4b35a5516738.

revenues flowing to federal and state treasuries. With environmental sentiment and oil prices both rising, the 1970s saw a rise in the tension between the desire for environmental protection and the need for greater petroleum production from domestic sources. The tension played out regionally – some areas saw a *de facto* ban on offshore drilling emerge while the western Gulf saw a significant increase. The latter received a boost from James Watt, the Reagan Administration’s Interior Secretary. Claiming the 1978 Outer Continental Shelf Lands Act Amendments provided discretion to the office of the Secretary, Watt issued Secretarial Order No. 3071 on January 19, 1982, to establish the Minerals Management Service (MMS).³⁶ The new agency within the Interior Department became responsible for both “regulatory oversight of offshore drilling and for collecting revenue from that drilling.”³⁷

Numerous deficiencies and scandals enveloped the MMS, however. A scathing 2008 report by the Interior Department’s Inspector General found employee misbehavior within MMS so extensive that he wrote that a “culture of ethical failure” saturated the agency.³⁸ From clear conflicts of interest in the performance of their official duties to several officials using illegal drugs and having sexual relationships with the energy company’s employees they were to regulate, the agency clearly demonstrated a record of institutional failure. A separate GAO report, also issued in 2008, exposed the prevalent difficulties MMS had in assigning accurate royalty values and promptly collecting from the drilling companies remained. All too often, the

³⁶ National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, “Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President,” January 2011, <https://www.govinfo.gov/content/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>

³⁷ Ibid, page 65.

³⁸ Office of the Inspector General, U.S. Department of the Interior, “OIG Investigations of MMS Employees,” publicly posted September 10, 2008, <https://www.doioig.gov/sites/doioig.gov/files/RIKInvestigation.pdf>.

industry was dictating its own terms in its dealing with the agency for MMS lacked “the ability to conduct thorough and independent verification of what is owed to the government.”³⁹

Despite the deep and obvious challenges at MMS, proponents of offshore drilling could point to the significant benefits offshore oil and gas production provided to western Gulf states and the nation. In the decade prior to the Gulf oil spill, offshore crude oil production averaged nearly 2 million barrels per day, roughly 40% of total U.S. production. Without offshore production, the U.S. would have had to import that amount to satisfy domestic demand. Net imports during this period averaged over 10 million barrels per day. Despite MMS’s difficulties with ensuring proper revenue assessment and collection, offshore drilling and production also generated significant revenues for federal and state governments through fees for lease sales and royalties on production. In FY2011, total revenues were over \$11 billion and federal revenues alone topped \$6 billion.⁴⁰ With these benefits in mind, President Obama and Interior Secretary Ken Salazar on March 31, 2010, announced a proposal to “open vast expanses of water along the Atlantic coastline, the eastern Gulf of Mexico and the north coast of Alaska to oil and natural gas drilling, much of it for the first time.”⁴¹

Just three weeks later, the largest oil spill in U.S history erupted. An explosion at the *Deepwater Horizon* drilling rig in the Gulf of Mexico on April 20 killed 11 members of the crew and the rig sank two days later. Oil from the uncontrolled well poured into the ocean for 87 days, releasing an estimated 206 million gallons of crude oil into U.S. territorial waters. The federal

³⁹ U.S. Government Accountability Office, “Data Management Problems and Reliance on Self-Reported Data for Compliance Efforts Put MMS Royalty Collections at Risk,” GAO-08-893R, Published and publicly released September 12, 2008. <https://www.gao.gov/products/GAO-08-893R>.

⁴⁰ Congressional Research Service, “U.S. Offshore Oil and Gas Resources: Prospects and Processes,” Last updated February 10, 2012, <https://crsreports.congress.gov/product/pdf/R/R40645>.

⁴¹ John M. Broder, “Obama to Open Offshore Areas to Oil Drilling for First Time,” *The New York Times*, March 31, 2010, <https://www.nytimes.com/2010/03/31/science/earth/31energy.html>.

government faced an unprecedented set of challenges unfolding across multiple dimensions simultaneously: sealing the well; responding to spilled oil; protecting and restoring affected areas of the Gulf Coast; assigning liability for criminal and civil violations; handling damage claims; investigating the cause of the explosion; and which policies might best address future issues and prevent similar episodes in the future. At its height, response operations involved 47,000 personnel, 7,000 vessels, and over a dozen major federal agencies.⁴² News coverage of the catastrophe surged while the oil flowed, with updates on the unfolding multi-dimensional disaster sustaining multiple storylines and reporting from multiple Gulf Coast locations.⁴³

The economic, legal, and political consequences of the oil spill began while the well still gushed. BP eventually accrued over \$62 billion in charges, fee, fines, and settlements. It also pleaded guilty to 14 federal criminal counts. Members of Congress introduced over 40 separate bills in the first three months of the crisis. President Obama issued short-term moratoriums on new drilling activities in deepwater areas, oversaw a wide-ranging response effort, proposed new legislation to support affected individuals, communities, and businesses, and proclaimed that he would ensure that the oil companies would be held fully accountable for their misdeeds.⁴⁴ Secretary Salazar quickly dismissed the top leadership at MMS and launched a complete reorganization of the troubled agency.⁴⁵ Interior Department completed its reorganization a year and a half later. The Bureau of Safety and Environmental Enforcement (BSEE) and the Bureau of Ocean Energy Management (BOEM), two new and independent divisions, officially replaced

⁴² Congressional Research Service, "Deepwater Horizon Oil Spill: Recent Activities and Ongoing Developments," last updated April 17, 2015, <https://crsreports.congress.gov/product/pdf/R/R42942>.

⁴³ Pew Research Center, "100 Days of Gushing Oil – Media Analysis and Quiz," August 25, 2010, <https://www.journalism.org/2010/08/25/100-days-gushing-oil/>.

⁴⁴ The White House, "Fact Sheet: Deepwater Horizon Oil Spill Legislative Package," May 12, 2010, <https://obamawhitehouse.archives.gov/the-press-office/fact-sheet-deepwater-horizon-oil-spill-legislative-package>.

⁴⁵ Congressional Research Service, *Reorganization of the Minerals Management Service in the Aftermath of the Deepwater Horizon Oil Spill*, R41485, November 10, 2010. <https://fas.org/sgp/crs/misc/R41485.pdf>.

MMS on October 1, 2011.⁴⁶ The bipartisan National Commission established to investigate the Gulf oil spill and U.S. offshore drilling policy offered a detailed analysis of the tragedy and proposed a long series of legislative and regulatory reforms designed to improve revenue collection, environmental protection, worker safety, emergency response plans, and legal liability arrangements.⁴⁷ While some of those recommendations flopped, Congress enacted many of the Commission's minor recommendations law and the new Interior agencies enacted others. However, drilling continued in the Gulf on a tremendous scale and remained prohibited in most other U.S. coastal regions.

Case 3: Solyndra

The U.S. government has deployed loan guarantees as a policy tool to pursue a diverse array of goals, from homeownership to international trade, since the Great Depression of the 1930s. Such guarantees allow higher-risk individuals or companies to borrow from private lenders on terms more favorable than they otherwise would be have been able to receive. In the process, the government assumes a portion of the default risk. By late 2010, fourteen different federal agencies managed 68 different loan guarantee programs with a total of \$1.9 trillion worth of primary guaranteed loans outstanding.⁴⁸

The Solyndra controversy arose from a set of loan guarantee programs dating from the Bush Administration. The Title XVII of wide-ranging Energy Policy Act of 2005 authorized the establishment of a new loan guarantee program within the Department of Energy (DOE) to

⁴⁶ U.S. Department of Interior, "Press Release: Interior Department Completes Reorganization of the Former MMS," September 30, 2011, <https://www.doi.gov/news/pressreleases/Interior-Department-Completes-Reorganization-of-the-Former-MMS>.

⁴⁷ National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, "Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President," January 2011, <https://www.govinfo.gov/content/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>.

⁴⁸ U.S. Department of Energy, Loan Program Office, "Title XVII," <https://www.energy.gov/lpo/title-xvii>; Congressional Research Service, "Loan Guarantees for Clean Energy Technologies: Goals, Concerns, and Policy Options," R42152, January 17, 2012, <https://crsreports.congress.gov/product/pdf/R/R42152>.

support innovation in certain types of promising but high-risk energy technologies, such as advanced nuclear, biofuels, clean coal, and renewables. While Congress did not initially appropriate any funds to cover the cost of the loan guarantees, DOE moved ahead with creating a new Loan Program Office (LPO) to administer Section 1703, the new program. Five years later, President Obama's gigantic American Recovery and Reinvestment Act of 2009 (ARRA), which the Democratic majority in Congress passed with no Republican votes in the House and only three Republican votes in the Senate, contained a provision modifying Title XVII. The ARRA established Section 1705, a temporary loan guarantee program focused on renewable energy, electricity transmission, and innovative biofuels. ARRA also provided billions of dollars to help subsidize the loans advanced under Section 1705. Launched in the middle of the sharp economic downturn, the DOE's new LPO sought to fulfill multiple goals simultaneously – boosting commercial enterprises' competitiveness in the emerging global clean energy market, creating thousands of jobs in the midst of a painful recession, and advancing promising technologies which could facilitate a reduction in greenhouse gas emissions.⁴⁹ The Section 1703 and 1705 programs existed in parallel and companies seeking loan guarantee support could apply to either or both. The original Section 1703 program stimulated little interest originally, in part due to the high initial fees the unsubsidized program placed upon applicants. In contrast, the new Section 1705 loans came with no initial fee and companies found them much more attractive.

On March 20, 2009, Energy Secretary Steven Chu announced Solyndra, Inc., a small solar system manufacturing company based in Fremont, California would be the first recipient under either program. The company had originally applied for support under the Section 1703 program but shifted its application to Section 1705 when it arose. The DOE LPO rapidly

⁴⁹ Ibid.

expanded its approvals and soon had extended over \$16 billion in loan guarantees under Section 1705. The majority of the enterprises approved for assistance did well, some faltered and failed, putting the federal government on the hook for significant losses. Solyndra, its profile heightened as the first applicant to receive approval, experienced such a fall. Its innovative but costly solar arrays did not fare well in the highly competitive solar system marketplace. The company nosedived and formally filed for bankruptcy on August 31, 2011, and the DOE's \$535 million loan guarantee put federal government covered half a billion dollars in losses.

Solyndra's collapse became the center point for a swirling set of allegations, investigations, and congressional hearings. Despite some suspicions regarding the company's business plan and the accuracy of its financial statements, House Republicans "alleged that the White House pressured OMB to approve the loan prematurely, despite Solyndra's financial problems. The implication is that they did so for political reasons, as the administration was rushing to promote green stimulus spending."⁵⁰ With the majority in the House, Republicans held grueling hearings and conducted invasive investigations into Solyndra and anything connected to it. When the 2012 Presidential campaign got underway, the Republican National Committee and House Republicans made Solyndra "a politically charged referendum on the administration's effort to promote green energy."⁵¹ Some objections focused narrowly on the merits and execution of the Section 1705 program and similar clean energy support programs. The majority of the attacks, however, repeatedly deployed the same exaggerated claims of

⁵⁰ Chris Good, "The Solyndra Scandal: What It Is and Why It Matters," *The Atlantic*, September 15, 2011, <https://www.theatlantic.com/politics/archive/2011/09/the-solyndra-scandal-what-it-is-and-why-it-matters/245186/>.

⁵¹ Yuki Noguchi, "Political Divide At Congressional Hearing On Solyndra," National Public Radio, September 14, 2011, <https://www.npr.org/2011/09/14/140474848/political-divide-at-congressional-hearing-on-solyndra>.

“crony capitalism” for partisan purposes.⁵² Just eighteen months after Solyndra’s bankruptcy, the investigations by the Republican-controlled House had resulted in “215,000 pages of documents, 14 committee staff briefings, [and] 5 Congressional hearings.”⁵³ President Obama won a second term but a small group of House Republicans – primarily from the Science, Energy and Commerce, and Oversight Committees – kept the Solyndra controversy alive.

The continual partisan attacks, however, obscured four points crucial to understanding the political foundations for the DOE loan programs. First, it became a remarkable success in the aggregate. After a few sizable losses with Solyndra and a few other companies, it generated a net profit for the U.S. Treasury for most of the companies it supported thrived, and the interest payments of those performing loans flowed back into the account.⁵⁴ And despite the allegations of misconduct by company executives and Obama Administration officials, the Justice Department did not pursue any prosecutions. Second, critics objected to the program’s approach on ideological and partisan grounds but could not specify precisely who it harmed. Subsidy programs may generate distortions in the market, but they could not connect those distortions to specific damages to specific companies. Third, a broad coalition of Democrats, center-right Republicans, and traditional energy conglomerates continued to support the program. In the year between late 2013 and late 2014, the LPO issued new solicitations for advanced fossil energy and advanced nuclear energy, energy types which had received little benefit from the program

⁵² Dan Primack, “Solyndra hearing becomes giant waste of time,” *Fortune*, November 18, 2011, <http://fortune.com/2011/11/17/solyndra-hearing-becomes-giant-waste-of-time/>; Ben Geman, “Solyndra: What a Mess,” *The Atlantic*, August 26, 2015, <https://www.theatlantic.com/politics/archive/2015/08/solyndra-what-a-mess/446784/> ;.

⁵³ Quote from Eric Schultz in Dan Geman, “GOP probe: Solyndra a ‘cautionary tale,’” *The Hill*, August 2, 2018 <https://thehill.com/policy/energy-environment/241869-gop-report-solyndra-collapse-a-cautionary-tale-of-political-pressures>.

⁵⁴ Nicholas Groom, “Controversial U.S. energy loan program has wiped out losses,” *Reuters*, November 13, 2014, <https://www.reuters.com/article/us-doe-loans/exclusive-controversial-u-s-energy-loan-program-has-wiped-out-losses-idUSKCN0IX0A120141113>

until that point.⁵⁵ It turns out that offering over \$20 billion in loan guarantees on favorable terms is a fantastic way to recruit new supporters. Fourth, Title XVII programs largely ceased offering new loans yet survived in law even after the Republican victories in the 2016 election provided them the opportunity to eliminate them completely. Section 1705 was always designed to be a temporary stimulus measure to boost economic activity and employment. Title XVII programs, however, continued to offer a target. The Republicans leading the House Science, Space, and Technology Committee held a hearing on February 15, 2017, to continue raking the DOE's loan guarantee program over the coals.⁵⁶ Yet the program survived in the next two appropriation cycles. Apparently, the two main opponents seeking to kill Title XVII programs – large fossil fuel interests and committed libertarians – could not muster enough votes to end the program. It retains \$40 billion dollars in spending authority. That authority, however, is largely going unused. The DOE LPO continues to oversee active loans, but it only issued one new loan – one supporting a nuclear plant under construction in Georgia – in recent years.⁵⁷ Another DOE energy innovation program, Advanced Research Projects Agency-Energy (ARPA-E), has fared even better. A coalition of congressional Democrats and a moderate Republicans have ensured ARPA-E continues to receive robust levels of funding.⁵⁸

Case 4: Dieselgate

⁵⁵ Geman (2015);

⁵⁶ House Hearing, 115th Congress - RISKY BUSINESS: THE DOE LOAN GUARANTEE PROGRAM <https://www.govinfo.gov/app/details/CHRG-115hhrg24668/CHRG-115hhrg24668>.

⁵⁷ Jacqueline Toth, "DOE Program's \$3.7 Billion Loan Highlights Lack of Action on Other \$40 Billion It Holds," Morning Consult, April 8, 2019, <https://morningconsult.com/2019/04/08/doe-programs-3-7-billion-loan-highlights-lack-of-action-on-other-40-billion-it-holds/>. Dan Reicher, "The Department of Energy's Loan Guarantee Program presents a crucial opportunity to fund U.S. infrastructure," The Brookings Institution, May 17, 2018, <https://www.brookings.edu/blog/the-avenue/2018/05/16/the-department-of-energys-loan-guarantee-program-presents-a-crucial-opportunity-to-fund-u-s-infrastructure/>.

⁵⁸ Dino Grandoni, "The White House wants to kill this popular energy program, but Rick Perry calls it 'impressive,'" *The Washington Post*, March 19, 2018, <https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2018/03/19/the-energy-202-the-white-house-wants-to-kill-this-popular-energy-program-but-rick-perry-calls-it-impressive/5aaf0fa030fb047655a06d64/>.

With core provisions dating back to 1963 and undergoing major amendments five times, today's Clean Air Act (CAA) provides considerable flexibility to the Environmental Protection Agency (EPA) to establish, regularly update, and ensure compliance with specific emission control standards. An original CCA provision requires EPA to review its standards, such as its National Ambient Air Quality Standards for major pollutants, every five years.⁵⁹ Title II, Part A of the Act specifically provides for establishing and enforcing standards for emissions from new motor vehicles or new motor vehicle engines.⁶⁰ Many view the Clean Air Act as one of the more enduring environmental statutes in American history, as Carlson and Fri note:

No part of the statute has been repealed. It is unclear exactly why the CAA has remained so durable, but one reason may be its success in producing measurable improvements in clean air across the country. Another reason may be that various presidential administrations have used their administrative discretion to ease in stringent new regulatory requirements rather than imposing them with no notice. A third reason may be that an environmental constituency has developed, providing resistance to repeal efforts.⁶¹

In a series of allegations beginning on September 18, 2015, EPA led combined federal efforts against the Volkswagen Automotive Group for selling cars with diesel engines releasing up to 40 times the amount of nitrogen oxide (NO_x) allowed under contemporary CAA standards. Specifically, EPA alleged that hundreds of thousands of Volkswagen vehicles sold in the U.S. (and, by implication, millions sold elsewhere) had violated regulations stemming from the CAA Section 202 and Section 203, regulations the Agency had most recently updated in February 2000.⁶² The corporation's widespread and deliberate use of illegal "defeat devices," in direct

⁵⁹ Ann E. Carlson and Robert W. Fri, "Designing a Durable Energy Policy," *Daedalus*, Vol. 142, No. 1 (Winter 2013), pp. 119-128 <https://www.jstor.org/stable/43297306>, p. 122.

⁶⁰ U.S. Environmental Protection Agency, "Clean Air Act Title II - Emission Standards for Moving Sources, Parts A through C," <https://www.epa.gov/clean-air-act-overview/clean-air-act-title-ii-emission-standards-moving-sources-parts-through-c>.

⁶¹ Ann E. Carlson and Robert W. Fri, "Designing a Durable Energy Policy," *Daedalus*, Vol. 142, No. 1 (Winter 2013), pp. 119-128 <https://www.jstor.org/stable/43297306>, p. 122

⁶² Congressional Research Service, "Volkswagen, Defeat Devices, and the Clean Air Act: Frequently Asked Questions," September 1, 2016 version, <https://fas.org/sgp/crs/misc/R44372.pdf>.

violation of provisions Congress had specifically crafted in the 1970 CAA amendments, had obscured the automaker's violations for nearly a decade.⁶³ When innovative testing techniques finally exposed the full extent of the company's behavior, VW faced what German news organization Deutsche Welle labeled a "lawsuit tsunami."⁶⁴ The corporation as a whole, its subsidiaries, and some individual employees faced a slew of governmental orders, congressional hearings, state investigations, criminal charges, and private civil suits. Many VW owner felt cheated by the company as well.⁶⁵ EPA and the Justice Department reached settlements with VW to resolve federal claims. The company agreed to over \$9 billion in civil and criminal penalties. Federal authorities also brought criminal indictments against six Volkswagen employees.⁶⁶

Dieselgate did not stop there. An initial, peer-reviewed study by Harvard researchers estimated the excessive emissions from Volkswagen vehicles inflicted significant health harms in the U.S. and would have resulted in 130 premature deaths and approximately \$840 million in additional social cost had the deception continued unnoticed and unremedied.⁶⁷ Other countries also began investigating Volkswagen and its subsidiaries for emission violations. Civil penalties

⁶³ Ibid, page 14.

⁶⁴ Peter Dahl, Deutsche Welle, "Lawsuit tsunami headed for Volkswagen," September 24, 2015, <https://www.dw.com/en/lawsuit-tsunami-headed-for-volkswagen/a-18737417>.

⁶⁵ Jeff Plungis, Alan Levin, and Alison Vekshin, "Volkswagen Owners Want Payback," Bloomberg, September 21, 2015, <https://www.bloomberg.com/news/articles/2015-09-22/volkswagen-owners-want-payback-over-pollution-control-cheating>.

⁶⁶ U.S. Department of Justice, Office of Public Affairs, "Volkswagen AG Agrees to Plead Guilty and Pay \$4.3 Billion in Criminal and Civil Penalties; Six Volkswagen Executives and Employees are Indicted in Connection with Conspiracy to Cheat U.S. Emissions Tests," January 17, 2017, <https://www.justice.gov/opa/pr/volkswagen-ag-agrees-plead-guilty-and-pay-43-billion-criminal-and-civil-penalties-six>; Hiroko Tabuchi, Jack Ewing and Matt Apuzzo, "6 Volkswagen Executives Charged as Company Pleads Guilty in Emissions Case," *The New York Times*, January 2017, <https://www.nytimes.com/2017/01/11/business/volkswagen-diesel-vw-settlement-charges-criminal.html>.

⁶⁷ Steven R. H. Barrett, Raymond L. Speth, Sebastian D. Eastham, Irene C. Dedoussi, Akshay Ashok, Robert Malina and David W. Keith, "Impact of the Volkswagen emissions control defeat device on US public health," *Environmental Research Letters*, Volume 10, Number 11 (October 29, 2015) https://scholar.harvard.edu/files/seastham/files/erl_10_11_114005.pdf.

for the company and criminal charges for individual employees spread worldwide like wildfire. Securities regulators and investors claimed the company's misleading statements amounted to fraud. The highest executives were not spared personally. Martin Winterkorn, the Volkswagen CEO who had resigned just days after the scandal emerged in September 2015, and other top executives eventually faced criminal charges in both the U.S. and Germany. The corporation's global tab for its trickery exceeded \$31 billion worldwide by April 2019.⁶⁸

Volkswagen was also not alone. Additional evaluations in the U.S. and 20 other countries revealed the emission control technologies used by many other manufacturers were also deliberately deceptive and generating illegal amounts of air pollution. Fiat Chrysler, Daimler Ford, Hyundai, and Volvo have all faced heightened scrutiny and investigations continue.⁶⁹

Just as the Trump Administration took office in January 2017, a Reuters/Ipsos poll indicated "more than 60 percent Americans would like to see the U.S. Environmental Protection Agency's powers preserved or strengthened" under the new President.⁷⁰ However, Scott Pruitt, President Trump's first EPA Administrator, had other ideas. He oversaw cuts to EPA staffing levels and a sharply reduced budget. In April 2018, Pruitt sought to revised emissions standards for cars and light trucks for model years 2022-2025 to allow for lower fuel efficiency and greater

⁶⁸ Jack Ewing, "Ex-Volkswagen C.E.O. Charged With Fraud Over Diesel Emissions," *The New York Times*, May 3, 2018, <https://www.nytimes.com/2018/05/03/business/volkswagen-ceo-diesel-fraud.html>; David McHugh, "Former Volkswagen CEO charged with fraud in Germany," *The Associated Press*, April 15, 2019, <https://www.apnews.com/faeff4b8855c4b0daf538599ae3f9db2>.

⁶⁹ Jack Ewing, "Volkswagen Not Alone in Flouting Pollution Limits," *The New York Times*, June 9, 2016, <https://www.nytimes.com/2016/06/10/business/international/volkswagen-not-alone-in-flouting-pollution-limits.html>. Damian Carrington, "Four more carmakers join diesel emissions row," *The Guardian*, October 9, 2015, <https://www.theguardian.com/environment/2015/oct/09/mercedes-honda-mazda-mitsubishi-diesel-emissions-row>.

⁷⁰ Chris Kahn, "Unlike Trump, Americans want strong environmental regulator," *Reuters*, January 17, 2017, <https://www.reuters.com/article/us-usa-trump-environment-idUSKBN1511DU>

amounts of tailpipe emissions.⁷¹ Then, on his last day in office, Scott Pruitt, the Trump Administration's first EPA Administrator, moved to reduce enforcement of a numerical cap on the manufacture of a certain type of high-emitting rebuilt diesel freight trucks.⁷² A band of Republican Senators and Representatives joined with Democrats to specifically advise Administrator Pruitt to not take this action, even though they were generally supportive of rolling back other environmental protections. Large manufacturers in their home states had already invested significant sums to meet the stricter emissions standards for diesel freight trucks and could be undercut if the repeal went forward. The Alliance of Automobile Manufacturers also voiced their displeasure with the repeal.⁷³ Clearly, elected officials and trade associations were paying close attention to diesel emission policy and EPA enforcement during the early years of the Trump Administration.

⁷¹ U.S. Environmental Protection Agency, "EPA Administrator Pruitt: GHG Emissions Standards for Cars and Light Trucks Should Be Revised," April 2, 2018, <https://www.epa.gov/newsreleases/epa-administrator-pruitt-ghg-emissions-standards-cars-and-light-trucks-should-be>.

⁷² Eric Lipton, *The New York Times*, "'Super Polluting' Trucks Receive Loophole on Pruitt's Last Day," July 6, 2018, <https://www.nytimes.com/2018/07/06/us/glider-trucks-loophole-pruitt.html>.

⁷³ Dino Grandoni, *The Washington Post*, "Republicans are united behind Trump's EPA rule changes. Except this one," May 1, 2018, <https://www.washingtonpost.com/news/powerpost/paloma/the-energy-202/2018/05/01/the-energy-202-republicans-are-united-behind-trump-s-epa-rule-changes-except-this-one/5ae77d6b30fb043711926940/>. *The Los Angeles Times*, Editorial Board, "Trump's EPA wants to ignore science and put more dirty trucks back on the road," December 7, 2017, <https://www.latimes.com/opinion/editorials/la-ed-epa-dirty-trucks-20171207-story.html>.

Results

Policy Model – Case 1: California Electricity Crisis

Policy-Centric Perspective	RATING	NOTES
Institutional Insulation	4	
Method of Enactment	4	EPACT92 enacted as statute so difficult to reverse. FERC can reverse its own orders (but rarely does).
Autonomy of Agency	3	FERC has important but not absolute role in federal electricity policy. FERC has significant autonomy, but frequent commissioner departures lessens its independence from the White House. President names FERC Chair, a role with oversized importance.
Assured Resources	5	FERC assures its own funding through modest fees on energy sector.
Political Composition	3	
Presidency	5	EPACT92 signed by Republican President Bush 41. Crisis and Fallout largely during first term of Republican President Bush 43.
U.S. Congress	1	EPACT92 originally passed by 102 nd Congress. Democratic House and Senate voted with considerable GOP support in both chambers. 107 th Congress: Republican House & closely divided Senate. 108 th Congress: Republican House & Senate. 109 th Congress: Republican House & Senate.
Relevant Federal Agency (if applicable)	-	FERC Chairs were Republican during Bush 41 and Bush 43 terms while Commissioners were a bipartisan mix, as required. Largely a product of the President's nominations. The variable merely reflects the Presidency and is not a distinct and independent variable.
Policy Feedback	2.5	
Demonstrating Administrative Competence	3	Positive results achieved in some states. California's results did not boost FERC image. Mix of federal and state responsibility for electricity policy clouds assignment of credit and blame.
Supplying Obvious Net Benefits to General Public	3	Results vary by state. Damage wrought in California was clear. Difficult to solely blame federal policy and FERC for that.
Supplying Obvious Net Benefits to Specific Interests	4	Independent power generators, power marketers, and some IOUs reaped large gains. Successful cases of deregulations in some states brought lower costs to many businesses.
Undermining Support for Status Quo Ante	3	New power producers and marketers had strong interests in retaining and expanding competitive markets.
Undermining and/or Demobilizing Original Opponents	1	Original opponents pointed to California case as proof deregulation would bring negative results. Traditional utilities resisting competition retained their opposition. Mix of federal and state responsibility for electricity policy clouds assignment of credit and blame.
Inflicting Harms and/or Mobilizing New Opponents	1	Terrible results in California, driving opposition. Many states and utilities feared repeat. Mix of federal and state responsibility for electricity policy clouded assignment of credit and blame.
Comprehensive Durability Prediction	3.17	Indicates moderately durable policy. Probably would be retained but not assured. Policy may encounter resistance and/or erosion.

Figure 8: Comprehensive Durability Prediction – Policy Model – California case

Empirical Record	RATING	NOTES
Policy Survival	5	EPACT92 retained. EPACT05 extends it. FERC Orders continue to favor restructuring.
Policy Stability	5	As noted above, Federal government, including FERC, under Bush 43 continued to promote restructuring.
Resource Continuation	-	Largely irrelevant this case. Federal policies advancing electricity restructuring do not depending on spending levels to be effective.
Comprehensive Durability Record	5	Clear record that federal government retained its pro-deregulation statues and FERC policies.

Figure 9: Comprehensive Durability Record – Policy Model – California case

ACCURACY	RATING
Comprehensive Durability Prediction	3.17
Comprehensive Durability Record	5.00
Perspective Accuracy	-1.83

Figure 10: Perspective Accuracy – Policy Model – California case

Event Model – Case 1: California Electricity Crisis

EVENT PERSPECTIVE	RATING	EXPLANATORY NOTES
Magnitude	5	
Human Lives Lost, Health Impacts	-	Indirect, negligible. Magnitude driven by economic harms in this case.
Economic Harms (property damaged, jobs lost, business revenue lost, investor value lost)	5	Tens of billions in economic damage, concentrated in primarily California (the subsequent Enron collapse brought another round of economic damage in the tens of billions)
Environmental Harms (wildlife killed, natural areas polluted)	-	Indirect, negligible. Magnitude driven by economic harms in this case.
Focusing Event	3.5	
National News Coverage	4	Moderately high. Data available in Appendix A.
Adhesion	3	Electricity networks, markets, and policy are complex and even subject matter experts had difficulty understanding and addressing this crisis. The most salacious audio tapes cemented Enron's culpability but reached the public after the crisis had ended.
Interest Group Dynamics	4	
Comprehensive Change Prediction (CCP)	4.17	

Figure 11: Comprehensive Change Prediction (CCP) – Event Model – California

Empirical Record	RATING	NOTES
Policy Survival	3	Federal policies favor restructuring remained. ISOs/RTOs footprint is large but not universal. Some states elected to restructure subsequently; most did not. Trend is mixed.
Policy Stability	3	Addressed above

Resource Continuation	-	Not Applicable.
Comprehensive Durability Record - Event Model	3	

Figure 12: Generic Comprehensive Chance Record (CCR) – Event Model – California

ACCURACY	RATING
Comprehensive Change Prediction	4.17
Comprehensive Change Record	3.00
Perspective Accuracy – Event Model	1.17

Figure 13: Generic Perspective Accurate (PA) – Event Model – California

Policy Model – Case 2: Gulf Oil Spill

Policy-Centric Perspective	RATING	NOTES
Institutional Insulation	2.67	
Method of Enactment	2	Secretarial Order established MMS in 1982. Secretary Watt claimed it was authorized by a previous-enacted statute.
Autonomy of Agency	1	MMS otherwise generally lacked independence. The President or the Interior Secretary could remove MMS officials without difficulty (and Salazar did).
Assured Resources	5	MMS collected copious revenue and was clearly able to provide its own funds.
Political Composition	3.0	
Presidency	1	Reagan (R) in 1982. Obama (D) in 2010.
U.S. Congress	5	Both Senate and House had Democratic majorities in January 1982. Both Senate and House had Democratic majorities in April 2010.
Relevant Federal Agency (if applicable)	-	Not independent of the President. MMS Director Elizabeth Birnbaum arrived with the Obama Administration. Sec. Salazar announced her resignation five weeks after the spill began.
Policy Feedback	2.6	
Demonstrating Administrative Competence	1	MMS was riddled with scandal prior to Gulf oil spill. The explosion and uncontrolled spill demonstrated it had failed to ensure adequate measures had been taken. More deficiencies came to public attention when spill began.
Supplying Obvious Net Benefits to General Public	3	Positive: MMS had overseen significant offshore oil and gas production, supplying fuel for the American economy and enhancing national energy security. Revenues support state and federal budgets. Negative: Explosion and spill publicly produced huge and obvious environmental harms to Gulf region – harming human health, killing wildlife, degrading coastal ecosystems.
Supplying Obvious Net Benefits to Specific Interests	3	Positive: Oil and gas companies (with considerable influence) earned huge profits from offshore oil and gas for their stockholders. Employees, primarily based in TX and LA, earned sizable paychecks and fueled economic activity along the shore. Negative: Seafood, boating, tourism, hospitality sectors all suffered from the oil spill.
Undermining Support for Status Quo Ante	4	Curtailing or prohibiting offshore drilling would reduce or eliminate the economic returns and energy security it provided.

Undermining and/or Demobilizing Original Opponents Over Time	-	No change. Opponents (including environmentalists) remained.
Inflicting Harms and/or Mobilizing New Opponents Over Time	2	Mobilizing new opposition: Spill strengthened environmental and regional opponents in Gulf. Good government proponents mobilized by corruption and malfeasance within MMS. Their political clout, however, is not significant.
Comprehensive Durability Prediction	2.75	

Figure 14: Comprehensive Durability Prediction – Gulf Oil Spill case

Empirical Record	RATING	NOTES
Policy Survival	0	Interior Secretary Salazar dissolved MMS immediate after the oil spill began.
Policy Stability	-	(MMS jurisdiction and activity had remained essentially steady until its dissolution.)
Resource Continuation	-	(MMS had been self-funding at sufficient levels until its dissolution.)
Comprehensive Durability Record	0	

Figure 15: Comprehensive Durability Record – Event Model – Gulf Oil Spill case

ACCURACY	RATING
Comprehensive Durability Prediction	2.75
Comprehensive Durability Record	0
Perspective Accuracy	2.75

Figure 16: Perspective Accuracy – Policy Model – Gulf Oil Spill case

Event Model – Case 2: Gulf Oil Spill

EVENT PERSPECTIVE	RATING	EXPLANATORY NOTES
Magnitude	4	
Human Lives Lost, Health Impacts	2	11 crewmembers killed in initial rig explosion. Magnitude in this instance was primarily economic and environmental.
Economic Harms (property damaged, jobs lost, business revenue lost, investor value lost)	5	Tens of billions in economic costs. Multi-billion-dollar fines imposed on BP and other companies. Short-term and long-term to damage to fisheries. Seafood, recreation, and tourism sectors in the Gulf had significant immediate losses.
Environmental Harms (wildlife killed, natural areas polluted)	5	Oil harmed thousands of acres of coastal ecosystems and beaches. Untold damage to marine ecosystems in the open ocean from spilled oil and dispersants.
Focusing Event	5	
National News Coverage	5	Coverage rose rapidly. Saturation coverage while the oil leak remained uncapped. See Appendix A.
Adhesion	5	Vivid imagery of fiery explosion and dark oil drenching wildlife, beaches, and coastal ecosystems. Camera placed at well revealed torrent of oil escaping. Dramatic tension with repeated failed

		attempts to seal the well. Personal stories of harmed workers and impacted fishing and tourism businesses.
Interest Group Dynamics	4	
Comprehensive Change Prediction (CCP)	4.33	

Figure 17: Comprehensive Change Prediction (CCP) – Event Model – Gulf Oil Spill case

Empirical Record	RATING	NOTES
Policy Survival	2	Offshore drilling in U.S. waters remains regional. Robust in the western Gulf, extremely limited elsewhere. MMS dissolved, functions divided among BOEM, BSEE, and ONMR. Some new safety regulations instituted.
Policy Stability	2	Temporary Moratoriums on some drilling but did not last. Drilling in shallow and deep water in the western Gulf resumed.
Resource Continuation	1	MMS was self-funding, but new agencies are not lacking. They have had the resources and personnel to execute their missions.
Comprehensive Change Record - Event Model	1.67	

Figure 18: Comprehensive Change Record (CCR) – Event Model – Gulf Oil Spill case

ACCURACY	RATING
Comprehensive Change Prediction	4.33
Comprehensive Change Record	1.67
Perspective Accuracy – Event Model	2.66

Figure 19: Perspective Accuracy (PA) – Event Model – Gulf Oil Spill Case

Policy Model – Case 3: Solyndra Controversy

Policy-Centric Perspective	RATING	NOTES
Institutional Insulation	2.3	
Method of Enactment	4	EPACT 2005 and ARRA enacted as statutes.
Autonomy of Agency	1	DOE Title XVIII and DOE Loan Program Office personnel ultimately answer to the President. Congress can appropriate funds (or not) and conduct oversight.
Assured Resources	2	DOE staffing level and appropriations set the level of administrative resources. The loan program earns a positive return and functionally self-funding.
Political Composition	1	
Presidency	1	2009: Obama – Democrat. (Although EPACT05 passed during the Bush 43 Administration, the DEO LPO was dormant until Obama Administration and the ARRA.) 2017-2018: Trump – Republican.

U.S. Congress	1	111 th Congress: Democratic majorities in House and Senate. 115 th Congress: Republican majorities in House and Senate.
Relevant Federal Agency (if applicable)	-	DOE leadership answers to President. Not an independent variable.
Policy Feedback	4.6	
Demonstrating Administrative Competence	3	Most companies receiving loans thrived and provided a net positive return. Some initial loans to Solyndra and others revealed hasty decisions and a lack of due diligence.
Supplying Obvious Net Benefits to General Public	4	Positive: Net positive results. Some landmark companies supported. Negative: Solyndra and other failures resulted in six-figure losses. Most objections to results are either specific to Solyndra or theoretical and abstract rather than specific victims who could denounce the program.
Supplying Obvious Net Benefits to Specific Interests	5	A large variety of energy companies (small scale solar, utility scale solar, advanced nuclear, advanced fossil, etc.) benefiting from the revamped program.
Undermining Support for Status Quo Ante	3	Some fossil fuel interests remain opposed (Koch brothers). Other large traditional energy companies see energy innovation programs as opportunities to secure government support for their projects and research.
Undermining and/or Demobilizing Original Opponents	4	Expanding the list of eligible projects to include advanced nuclear and advanced fossil gained attracted new supporters.
Inflicting Harms and/or Mobilizing New Opponents	4	Most objections to results are either specific to Solyndra or theoretical and abstract rather than specific victims who could denounce the program.
Comprehensive Durability Prediction	2.64	

Figure 20: Comprehensive Durability Prediction – Solyndra case

Empirical Record	RATING	NOTES
Policy Survival	4.5	Title XVIII continues. Section 1703 continues. Section 1705 was designed to be temporary and did cease.
Policy Stability	3	Title XVII expanded beyond original clean energy focus to allow for funding of advanced nuclear and advanced fossil.
Resource Continuation	2	Resources remain but new loans have not been issued in many years.
Comprehensive Durability Record	3.17	

Figure 21: Comprehensive Durability Record – Policy Model – Solyndra case

ACCURACY	RATING
Comprehensive Durability Prediction	2.64
Comprehensive Durability Record	3.17
Perspective Accuracy	-0.53

Figure 22: Perspective Accuracy – Policy Model – Solyndra case

Event Model – Case 3: Solyndra Controversy

EVENT PERSPECTIVE	RATING	EXPLANATORY NOTES
Magnitude	1.33	
Human Lives Lost, Health Impacts	1	No deaths. No injuries.
Economic Harms (property damaged, jobs lost, business revenue lost, investor value lost)	2	A few high-risk companies failed and hundreds of millions of taxpayer dollars were lost, a relatively small amount in the billions deployed in the ARRA. DOE LPO is a net positive for the budget.
Environmental Harms (wildlife killed, natural areas polluted)	1	None.
Focusing Event	2.25	
National News Coverage	3	Quantity of coverage moderately high. See Appendix A.
Adhesion	1.5	Details of the loan programs and the Solyndra specific situation are complex. The whiff of “crony capitalism” and foul play sparks some interest. Many investigations but no criminal cases.
Interest Group Dynamics	4	
Comprehensive Change Prediction (CCP)	2.5	

Figure 23: Comprehensive Change Prediction (CCP) – Event Model – Solyndra case

Empirical Record	RATING	NOTES
Policy Survival	1.5	Title XVIII continues. Section 1703 continues. Section 1705 was designed to be temporary and did cease. ARPA-E continues.
Policy Stability	3	Title XVII expanded beyond original clean energy focus to allow for funding of advanced nuclear and advanced fossil.
Resource Continuation	4	Resources remain but new loans have not been issued in many years.
Comprehensive Change Record - Event Model	2.83	

Figure 24: Comprehensive Change Record (CCR) – Event Model – Solyndra case

ACCURACY	RATING
Comprehensive Change Prediction	2.50
Comprehensive Change Record	2.83
Perspective Accuracy – Event Model	-0.33

Figure 25: Perspective Accuracy (PA) – Event Model – Solyndra Case

Policy Model – Case 4: Dieselgate

Policy-Centric Perspective	RATING	NOTES
Institutional Insulation	2.3	
Method of Enactment	5	Congress originally enacted the Clean Air Act and has amended it many times since through statute.
Autonomy of Agency	1	The President can remove EPA's leadership and direct it to take courses of action or prioritize certain issues. It lacks autonomy.
Assured Resources	1	Congress could decrease EPA's overall funding, reduce specific appropriations for specific offices, or both.
Political Composition	1.0	
Presidency	1	Nixon (R) in office when original Clean Air Act enacted. Obama (D) in office for first 16 months of Dieselgate scandal
U.S. Congress	1	Congress in 1970: Democratic majorities control both chambers Congress in 2015: Republican majorities control both chambers
Relevant Federal Agency (if applicable)	-	
Policy Feedback	3.67	
Demonstrating Administrative Competence	4	EPA eventually uncovered the violations and held the companies accountable, and garner billions in fines. VW and others, however, evaded detection for many years.
Supplying Obvious Net Benefits to General Public	5	Protecting clean air and preventing air pollution by rouge auto companies.
Supplying Obvious Net Benefits to Specific Interests	3	Some auto manufacturers allege the strictest standards raise costs and hurt their competitiveness.
Undermining Support for Status Quo Ante	4	Few explicitly proclaim a desire to return to the smoggy conditions that were more common before the CAA. Automakers can comply with basic standards and do not seek a return to 1970.
Undermining and/or Demobilizing Original Opponents	3	Some auto manufacturers allege the strictest standards raise costs and hurt their competitiveness.
Inflicting Harms and/or Mobilizing New Opponents	3	EPA's ostensible allies in the environmental and public health organizations did little to support the agency on this issue. They do, however, rally support for the Agency and the CAA more generally.
Comprehensive Durability Prediction	2.32	

Figure 26: Comprehensive Durability Prediction – Policy Model – Dieselgate case

Empirical Record	RATING	NOTES
Policy Survival	5	CAA and vehicle emissions standards remain robust.
Policy Stability	5	Passenger vehicle emissions standards remain robust.
Resource Continuation	3	Trump Administration and Republican Congress reduced EPA's budget and personnel. Administrator Pruitt undermined staff morale.
Comprehensive Durability Record	4.33	

Figure 27: Comprehensive Durability Record – Policy Model – Dieselgate Case

ACCURACY	RATING
Comprehensive Durability Prediction	2.32
Comprehensive Durability Record	4.33
Perspective Accuracy	-2.01

Figure 28: Perspective Accuracy – Policy Model - Dieselgate case

Case	Policy Model PA	Event Model PA	Average Gap
California Electricity	-1.83	1.17	1.50
Gulf Oil Spill	2.75	2.66	2.71
Solyndra	-0.53	-0.33	0.43
Dieselgate	2.32	-2.01	2.17
Average Gap	1.86	1.54	

Figure 29: Accuracy Ratings for Two Model and Four Cases

Discussion

An application of the Policy Model to the California electricity crisis and relevant federal electricity policy produces a mixed result for the paradigm. The Republican President and the Republican-dominated Congresses of this era retained EPACT92 and reinforced it with EPACT05. FERC retained its own pro-competition, pro-deregulation positions, despite a few measures on refunds and price caps during the peak of the California crisis. Clearly, these federal policies in the electricity sector were durable following the California crisis. The policy-centric paradigm, on the other hand, would indicate these deregulation policies would encounter rough seas and might even be sunk following the disaster in California. Clearly, the perspective has underestimated the durability of the federal deregulation efforts.

With a PA of 1.17, the results of the Event Model in the California case indicate a moderately high level of accuracy for the Event Perspective. While the economic costs were tremendous and the crisis qualifies a moderately strong focusing event, the policy changes were

mixed. The Golden State's profoundly negative experience with its version of restructuring neither halted all moves away from traditional regulatory structures at the state, regional, and federal level nor triggered a nationwide abandonment of the greater competition and restructuring.

The Event Model's PA slightly greater accuracy than the Policy Model's accuracy reflects two small but significant advantages in the California case. Its wider examination of national trends in electricity deregulation rather than specific federal policies allowed it to incorporate the impact the California experience produced for the country. The Policy Model's overly narrow consideration of federal policies entirely misses that electricity deregulation did not sweep the country despite California's experience. Second, the complex nature of the electricity crisis in California never allowed the general public to place the blame for the calamity at the feet of the deregulation policy. With competing interpretations of the events in California, apparently positive experiences with deregulations in other states, and Enron's unscrupulous behavior clouding the issue, deregulation proponents were able to debate the issue. Proponents and detractors continued their contests at the state and regional levels.

The high PA rating indicates poor accuracy for the Policy Model in Case 2, the Gulf Oil Spill. The results here highlight again that the narrowness undermines the explanatory value of the Policy Model. The model's consideration of discrete policies can deliver poor results when one specific policy becomes the whole basis for the empirical record. The Minerals Management Service experienced a policy "death," a central result in the Policy Perspective. The model built to reflect the perspective, however, does not incorporate in its results that MMS's traditional functions continued to exist and the Interior Secretary's reorganization shifted those function to the three new agencies in the same Department. It also fails to incorporate that robust levels of

offshore drilling resumed in the western Gulf soon after the spill and that offshore drilling did not expand to new coastal regions. The model handles those important trends poorly.

The low accuracy ratings for both models in Cases 1 and 2 point to the difficulties in both models handling of trends. Policy changes can unfold across time and neither perspective captures trends well. In the electricity deregulation, the 1990s and early 2000s saw a growing acceptance of restructuring. Many Democrats in Washington supported EPACT92 and a California legislature controlled by Democrats unanimously approved AB 1890. George H. W. Bush, a Republican President, and Pete Wilson, a Republican Governor, supported the deregulatory agenda as well. Bipartisan support appeared to be strong. A prediction in the late 1990s that electricity deregulation would soon sweep the country would not have seem unreasonable. In the end, less than half the states have embraced electricity deregulation and wholesale electricity markets involve just over half of the wholesale power generated in the country. The pro-restructuring, pro-competition trend has clearly stalled. Similarly, President Obama's proposal to allow offshore drilling in more regions offered a sign that offshore drilling was gaining some bipartisan support. The Gulf oil spill helped ensure that the regional approach regarding offshore drilling continued. Unless an understanding of policy durability can carefully and fully incorporate such trends, our understanding of policy durability and policy change will remain limited.

In a complex federal system, policy changes can also unfold across multiple jurisdictions. When intractable debates continue without resolution at the federal level, policymakers have often allowed states and regions to be the main forum for crucial public policy matters. This has

clearly been the de facto solution regarding electricity regulation and offshore drilling. Within certain federal constraints, states also have considerable flexibility to set policies affecting capital punishment, elections, abortion, and firearms, just to name a few. Federal policies can also occasionally sweep state authority, as Supreme Court decisions regarding racial segregation and same-sex marriage have clearly demonstrated. Changes at the state level and sweeping changes can unfold in the same policy domain and theories regarding policy durability need to be attuned to these developments.

Consider, for example, an examination of the durability of civil unions policies. As the movement for LGBTQ civil rights gained steam in the 1990s, many countries and states established laws providing for same-sex couples to enter into civil unions. These arrangements typically lacked the full privileges and status of marriage. Some considered them a step towards equality. The U.S. Supreme Court in its 2015 *Obergefell* decision struck down all state restrictions on same-sex marriage and established marriage equality as the law of the land. A study of the durability of civil union policy would need a nuisance method of reflecting those dramatic changes.

The results also indicate that high levels of insulation may come at a cost. In some instances, policymakers may be unable to gather the support necessary to enact highly insulated measures and they never become law. The enactment of a less insulting insulated policy may reflect that its core provisions lacked the broad political and/or popular support necessary to install a more insulated version. Design features, however, can also be too rigid, inhibiting a policy from absorbing change, adapting to new circumstances, or preventing the enactment of positive adjustments necessary to resolve implementation difficulties. In such a case, insulation can also inhibit the realization of the policy's full potential and reduce its appeal. Insulation does

not negate the possibility of any change. Formal changes need not equate to reversal, as the Solyndra case demonstrates if the changes allow the policy to attain its main objectives. Modifications may still occur, and a policy, program, or agency could still remain insulated if those changes are both minor and beneficial. When its objectives remain clear, its institutional capacity remains robust, and its programs continue to perform well, a policy may gain from changes to its governing authority or top personnel.⁷⁴

When presenting Central Intelligence Agency Director Allen Dulles with the National Security Medal in 1961, President John Kennedy told the assembled members of the Agency “Your successes are unheralded, your failures are trumpeted.”⁷⁵ The same could be said of those serving in the agencies and commissions tasked with crafting and enforcing energy and environmental regulations in the public interest. As the four cases, studies above indicate, statutory and regulatory measures smoothly achieving their goals and accruing benefits all too often go unheralded while their failures and costs provoke considerable criticism. The California electricity crisis, the Gulf oil spill, and the Solyndra episode were episodes of considerable corporate malfeasance. Yet those failures grabbed the headlines and successful episodes in state-level electricity sector restructuring, deepwater offshore drilling, and government-backed energy innovation all too often have did not. Improving conditions can lull residents into complacency and a successful policy can “be at risk of succumbing to its own success.”⁷⁶ The central point of the Event Perspective – shocking events, under certain conditions, can prompt policy change –

⁷⁴ Barry G. Rabe, “The Durability of Carbon Cap-and-Trade Policy,” *Governance* 29 no. 1, (2016): 103-199, <https://doi.org/10.1111/gove.12151>.

⁷⁵ Central Intelligence Agency Library, “Valediction,” November 28, 1961, https://www.cia.gov/library/center-for-the-study-of-intelligence/kent-csi/vol6no1/html/v06i1a07p_0001.htm.

⁷⁶ Beth Gardiner quoted in Kate Wheeling “‘Something Even Bigger Is at Stake’: How Humanity Can Solve Our Air Pollution Crisis,” *Pacific Standard*, April 24, 2019, <https://psmag.com/ideas/how-humanity-can-solve-our-crisis-of-air-pollution-beth-gardiniers-choked-reviewed>.

retains at its core the idea that failures may trigger significant political ramifications while chronic situations, positive or negative, may continue unnoticed and unaddressed.

The relative silence of supporters in moments of great success is an even more troublesome sign for those seeking to ensure policymakers retain successful measures and effective regulatory agencies. Bright researchers from West Virginia University turned a small research grant from International Council on Clean Transportation into a tsunami of criminal and civil cases against the world's largest automakers yet they have reaped little reward personally.⁷⁷ The allies one might expect to come forward and proclaim their appreciation during the Dieselgate scandal were largely silent. When the official announcements and settlements came in the Volkswagen case, environmental, public health, and consumer groups all too often merely released press releases criticizing the company and applauding the billions earmarked for electric vehicle infrastructure, when they reacted at all.⁷⁸ Praise for the ingenious researchers, dedicated regulators, and enforcement officials who brought the cases forward was not forthcoming. The departments and policies central received only passing acknowledgment rather than applause. There were no "thank you for your service" tributes, no ticker-tape parades.

More importantly for this study, regulations and enforcement mechanisms which exposed the wrongdoings and upheld the regulatory regime that serves the public interest also went unheralded. Even EPA's own website fails to highlight its role in the Volkswagen settlements or

⁷⁷ Jack Ewing, "Researchers Who Exposed VW Gain Little Reward From Success," The New York Times, July 24, 2019, <https://www.nytimes.com/2016/07/25/business/vw-wvu-diesel-volkswagen-west-virginia.html>.

⁷⁸ See, for example, Natural Resources Defense Council, "Press Release: VW Settlement Will Clean Up Pollution and Help Expand Market for EVs," July 28, 2016 <https://www.nrdc.org/media/2016/160628-0>; Edward Humes, "Volkswagen's Cheating Scandal Could Have a Silver Lining," August 29, 2018, Sierra: The National Magazine of the Sierra Club, <https://www.sierraclub.org/sierra/2018-4-september-october/feature/volkswagens-cheating-scandal-could-have-silver-lining>; American Lung Association, "American Lung Association Reacts to Proposed Volkswagen Settlement," June 30, 2016, <https://www.lung.org/about-us/media/press-releases/react-volkswagen-settlement.html>; Consumers Union, Press Release: Volkswagen Admits to Criminal Wrongdoing: Consumers Union Statement January 11, 2017, https://advocacy.consumerreports.org/press_release/volkswagen-admits-to-criminal-wrongdoing-consumers-union-statement/.

the public health benefits those settlements will provide. The Agency's "Timeline of Major Accomplishments" webpage contains no mention of either Volkswagen's specific violations, the Dieselgate scandal more broadly, or the public service the Agency performed in detecting the violations, holding the offenders accountable, and obtaining the record-setting fines and consequential consent decrees.⁷⁹

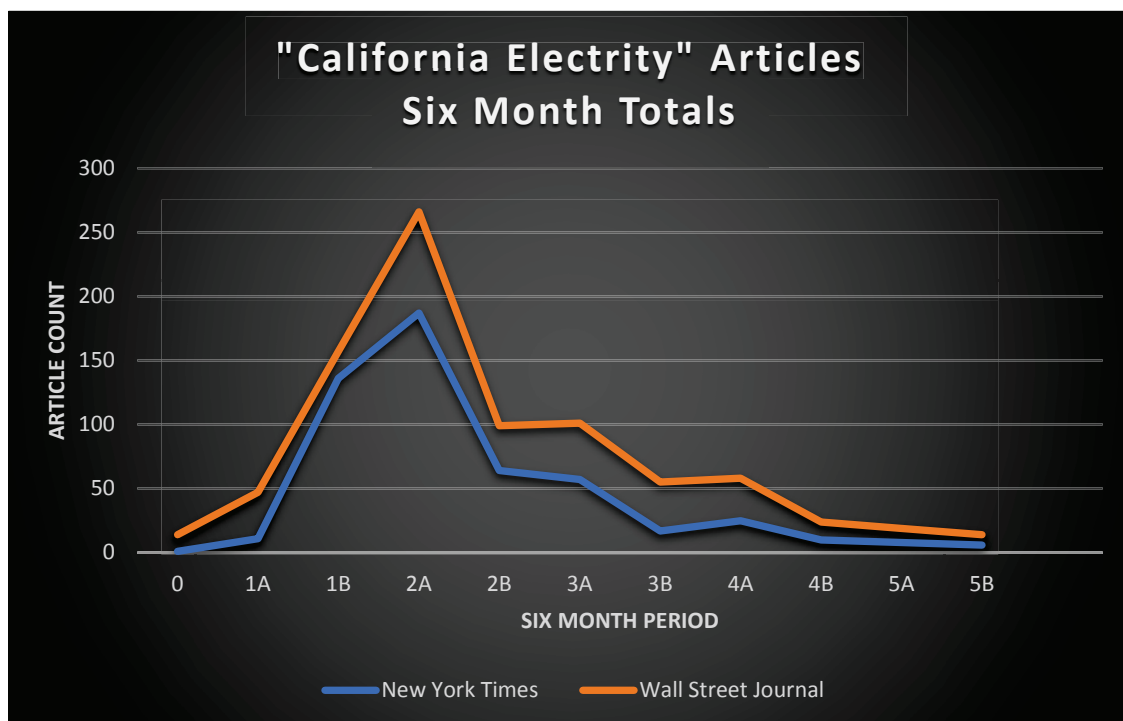
If allies and agencies stand silent in moments of success and foes castigate in moments of failure, extant energy and environmental policies serving the public good will face mounting political challenges. The public will be less aware of the benefits regulations and regulatory agencies provide. Elected officials will have less incentive to ensure their continuity. The intensely motivated special interests Olson identified decades ago will have less resistance to their attempts to undo protections serving the public interest. Unless champions defend public interest energy and environmental policies in both victory and defeat, future observers tracking the durability of such policies will likely note a long-term decline in policy survival and stability.

⁷⁹ U.S. Environmental Protection Agency, "Timeline of Major Accomplishments," <https://www.epa.gov/transportation-air-pollution-and-climate-change/accomplishments-and-success-air-pollution-transportation#timeline> and <https://www.epa.gov/transportation-air-pollution-and-climate-change/timeline-major-accomplishments-transportation-air>

Appendix A: National News Coverage Data

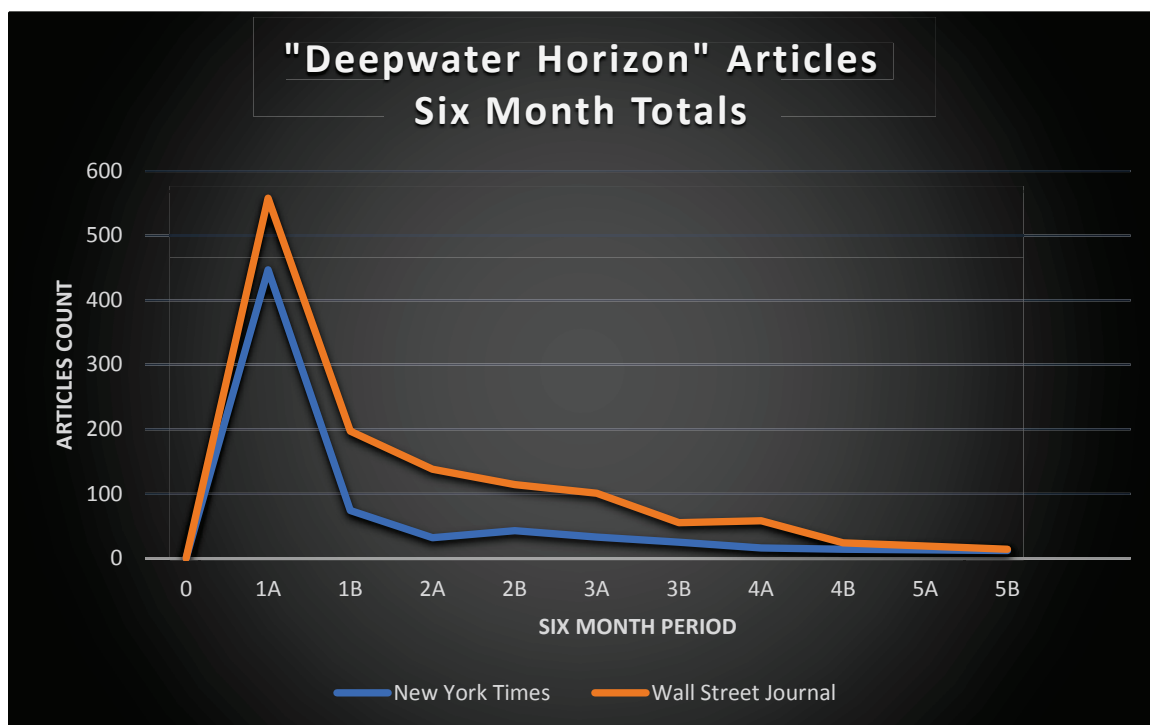
Case 1: California Electricity Crisis

California	Search Term: "California Electricity"											
Date Range Start	9/1/1999	3/1/2000	9/1/2000	3/1/2001	9/1/2001	3/1/2002	9/1/2002	3/1/2003	9/1/2003	3/1/2004	9/1/2004	3/1/2005
Date Range End	2/28/2000	8/31/2000	2/28/2001	8/31/2001	2/28/2002	8/31/2002	2/28/2003	8/31/2003	2/28/2004	8/31/2004	2/28/2005	8/31/2005
Period	0	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	5 Yr
NYT Articles	1	11	136	187	64	57	17	25	10	8	6	521
WSJ Articles	14	47	157	266	99	101	55	58	24	19	14	840
Total Articles	15	58	293	453	163	158	72	83	34	27	20	1361



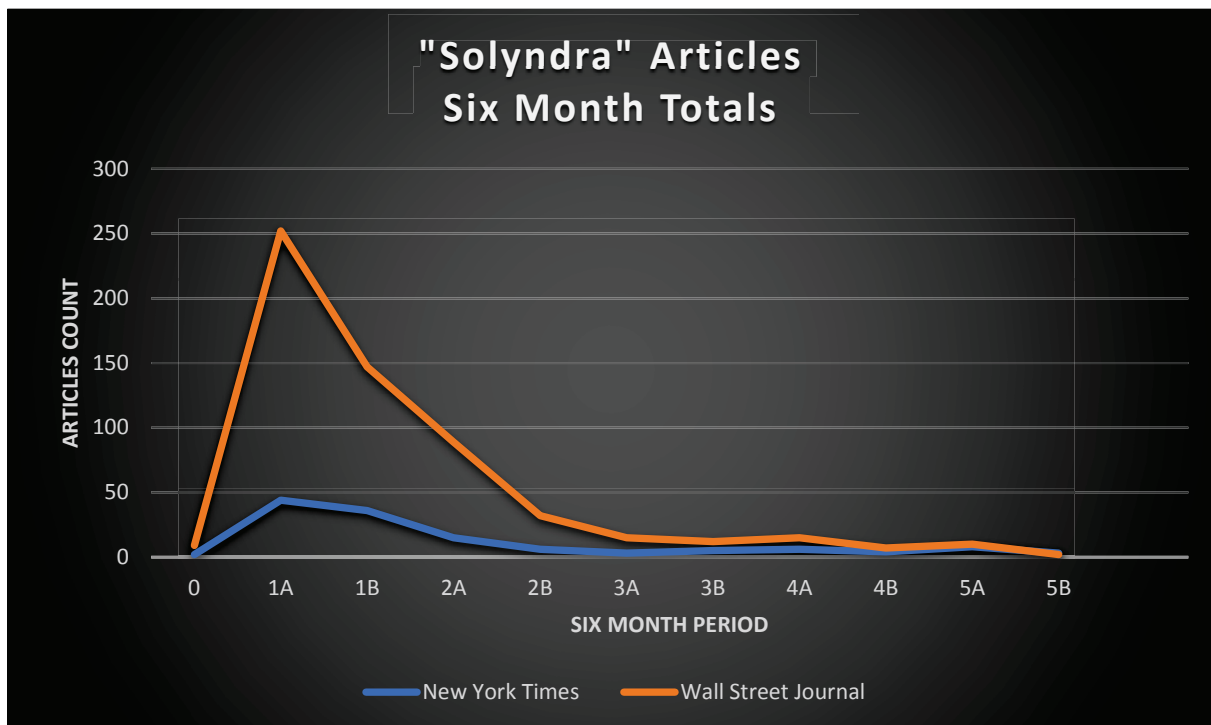
Case 2: Gulf Oil Spill

Gulf	Search Term: "Deepwater Horizon"											
Date Range Start	10/1/2009	4/1/2010	10/1/2010	4/1/2011	10/1/2011	4/1/2012	10/1/2012	4/1/2013	10/1/2013	4/1/2014	10/1/2014	
Date Range End	3/31/2010	9/30/2010	3/31/2011	9/30/2011	3/31/2012	9/30/2012	3/31/2013	9/30/2013	3/31/2014	9/30/2014	3/31/2015	
Period	0	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	5 Yr
NYT Articles	0	447	74	32	43	33	25	16	14	13	12	709
WSJ Articles	0	558	197	138	114	53	139	62	46	47	45	1399
Total Articles	0	1005	271	170	157	86	164	78	60	60	57	2108



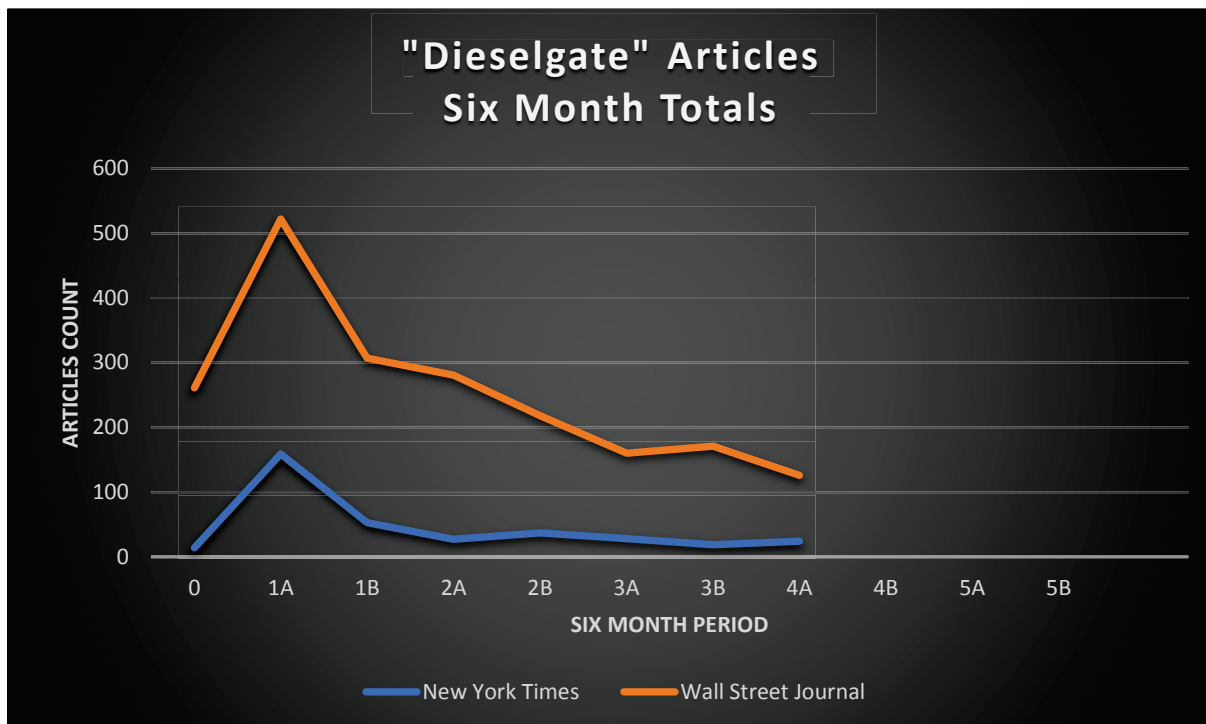
Case 3: Solyndra

Solyndra	Search Term: "Solyndra"											
Date Range Start	2/1/2011	8/1/2011	2/1/2012	8/1/2012	2/1/2013	8/1/2013	2/1/2014	8/1/2014	2/1/2015	8/1/2015	2/1/2016	
Date Range End	7/31/2011	1/31/2012	7/31/2012	1/31/2013	7/31/2013	1/31/2014	7/31/2014	1/31/2015	7/31/2015	1/31/2016	7/31/2016	
Period	0	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	5 Yr
NYT Articles	2	44	36	15	6	3	5	6	4	8	3	132
WSJ Articles	9	252	147	89	32	15	12	15	7	10	2	590
Total Articles	11	296	183	104	38	18	17	21	11	18	5	722



Case 4: Dieselgate

Dieselgate	Search Term: "Volkswagen"											
Date Range Start	3/1/2015	9/1/2015	3/1/2016	9/1/2016	3/1/2017	9/1/2017	3/1/2018	9/1/2018	n/a	n/a	n/a	
Date Range End	8/31/2015	2/28/2016	8/31/2016	2/28/2017	8/31/2017	2/28/2018	8/31/2018	2/28/2019	n/a	n/a	n/a	
Period	0	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	Total
NYT Articles	14	159	53	27	37	28	19	24				361
WSJ Articles	261	522	307	281	218	160	171	126				2046
Total Articles	275	681	360	308	255	188	190	150				2407



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