Assessing President Obama’s Climate Change Record

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Abstract

This essay assesses President Obama’s climate change record by looking at his success in translating policy goals into policy outputs (laws or regulatory action) during his time in office. It begins by using Obama’s campaign speeches to identify specific promises to take action on climate change, and then proceeds to examine whether, how, and with what success he managed to act upon these pledges. The essay shows that Obama set out a multi-pronged approach to dealing with climate change in his campaign speeches, and succeeded in translating many of his goals into policy outputs. The latter is a significant finding as the standard against which Obama is being judged is very high. The idea that an elected politician managed to fulfil many of the promises made on the campaign trail is worthy of note as the normal expectation is to find a gap between promises and performance. The finding also contributes to debates about Obama’s “green” credentials.

Key words: United States, President Obama, climate change, environment

President Obama’s record on climate change has been fiercely contested. On the one hand, critics point to the failure to enact cap-and-trade legislation to reduce greenhouse gas emissions during the early years of the Administration, the granting of permits to drill for oil and gas, and a failure to agree a legally-binding successor to the Kyoto Protocol, as evidence of Obama’s unwillingness to address climate change seriously (Lizza, 2010; Knickerbocker, 2010; Gore, 2011; Lemann, 2013; Goodell, 2013, 2014; McKibben, 2013; Kincaid and Roberts, 2013). On the other hand, supporters claim that Obama has addressed climate change through a “stealth strategy” in which he has increased funding for a variety of climate related activities, promulgated a range of regulations to curb greenhouse gas emissions, refused to grant a permit to build the Keystone XL pipeline, negotiated important bilateral agreements with countries like China, and helped to negotiate an important international accord on climate change at the UN Climate Change Conference in Paris in December 2015 (Pooley, 2010; Chait, 2013).

 The difference between these two competing narratives of President Obama’s record on climate change lies not so much in their accounts of the actions taken by the Administration, but in different assessments of what might and has been achieved, and how this stacks up against what needs to be done (Goodell, 2014). Critics argue that a “window of opportunity” for a major change in climate policy opened in the early years of the Obama Administration that was not exploited. They claim that opinion polls showed the public supported action to address climate change, proposals for a cap-and-trade system to control greenhouse gas emissions had been advanced by both presidential candidates in the 2008 election, and the Democrats had sufficient majorities in Congress to overcome Republican opposition to legislation, but Obama failed to provide the leadership necessary to convert the promise of these circumstances into major policy change (see Skocpol, 2013). Supporters counter that the context confronting Obama on climate change was more challenging than suggested by his critics even before the Democrats lost control of the House of Representatives following the 2010 mid-term elections. They note that climate change ranked far below the economy, health care and a number of other issues in terms of public priorities, proposals for economy-wide controls on greenhouse gas emissions generated opposition from powerful vested interests, and not all congressional Democrats supported action to regulate greenhouse gas emissions more strictly. The argument is that faced with these unpromising circumstances Obama displayed considerable leadership skills by taking a number of seemingly small steps to address climate change during his time in office that cumulatively add up to a major change in policy.

 Evaluating these competing narratives is problematic on two levels. First, determining what would have happened if President Obama had acted differently is unknowable. There is no way of judging authoritatively whether cap-and-trade legislation would have passed in the early years of the Administration, for example, if Obama had made more speeches, twisted more arms, and made a more pronounced effort to court moderate Republicans. Legislative success might have followed or the result might have been the same. Who knows? Second, the concept of major policy change is left undefined in much of the discussion about Obama’s record on climate change but is essential to any evaluation of the competing narratives. Put simply: what constitutes a major change in policy? Answering this question is not easy. Among the problems that need to be resolved are whether policy refers to an output, outputs, or outcomes, how change is to be measured, and establishing a threshold that needs to be passed for any change to be classified as major. Chaos theory which demonstrates that apparently small changes in conditions may have large consequences because of feedback loops further complicates the picture.

 In this essay I sidestep the difficulties associated with evaluating the competing narratives of President Obama’s record on climate change by offering a very clear framework for assessing presidential performance. My focus is Obama’s record of achieving his stated policy aims. I begin by looking at Obama’s 2008 campaign speeches to identify specific promises of action on climate change and then proceed to examine whether, how, and with what success he managed to translate these into policy outputs over his two administrations. Such a focus has the advantage of avoiding “what might have been” problems, doesn’t require a definition of “major”, offers an opportunity to discuss the opportunities and obstacles to presidential leadership, and establishes a record of accomplishments that covers his entire period in office. While the existing scholarship notes some of the successes and failures of Obama’s efforts to address climate change, this work does not review his entire term in office (Vig, 2013, 2016; Sussman and Daynes, 2013, Bailey, 2015; Rosenbaum, 2017). This essay’s contribution, therefore, is empirical. It provides the first systematic assessment of Obama’s record on climate change, and shows that Obama set out a multi-pronged approach to dealing with climate change in his campaign speeches, and succeeded in translating many of his goals into policy outputs. The latter is a significant finding as the standard against which Obama is being judged is very high. The idea that an elected politician managed to fulfil many of the promises made on the campaign trail is worthy of note as the normal expectation is to find a gap between promises and performance. Past studies have shown that although most presidents try to meet their campaign promises, they usually find sustained success elusive due to a variety of institutional and political factors (Pomper, 1968; Krukones, 1984; Fishel, 1985; Shaw, 1998; Marschall and McKee, 2002; Claibourn, 2011).

Obama and the Promise of Action

 My focus on assessing whether President Obama achieved his policy aims means that the first task is to identify what he promised to do to address climate change during the 2008 presidential election cycle. Two general approaches to identifying promises can be found in the literature. The first takes a broad view of the sources of promises. For example, Krukones (1984) examines media reports to identify promises while Fishel (1985) looks at a broad range of campaign communications (speeches, press releases). The second relies upon party platforms to locate promises in the belief that they offer more authoritative and consistent statements of what presidents wish to do (Pomper, 1968, Shaw, 1998). In this essay I employ a broad approach to identifying Obama’s promises on climate change by looking at his campaign communications in both the primary and general election campaigns. My reason for taking this approach is twofold. First, campaign communications offer a clearer view of a candidate’s position on an issue than the party platform which necessarily involves negotiation with other political actors. And second, campaign communications allow the evolution of a candidate’s position to be tracked over time. Both of these points contribute to a richer, more complete picture of what a candidate thinks about an issue and how they wish to address it.

To identify President Obama’s campaign communications on climate change I use the American Presidency Project database maintained by John Woolley and Gerhard Peters at the University of California, Santa Barbara ([www.presidency.ucsb.edu](http://www.presidency.ucsb.edu)) to search Obama’s speeches and press releases from 10 February 2007, when he announced his candidacy, to 4 November 2008, when he was elected, using “climate change” as a keyword. I identify how often he mentioned climate change, how much time he devoted to the issue, and most importantly, what he said he would do about it. The speeches and press releases reveal that Obama paid sufficient attention to climate change during the campaign to suggest that he regarded the issue as important, and took time to advance a comprehensive mix of general policy goals and specific targets that can be used to assess his subsequent record over both his Administrations. Obama’s references to climate change in the 2012 presidential election mentioned the serious work that still needed to be done to address the issue but contained no promises of specific action indicating a continuation of policy direction.

[Figure 1 here]

 The American Presidency Project database reveals that Barack Obama mentioned climate change in 67 speeches or press releases during the 2008 primary and general election campaigns, beginning with a single sentence attack on those who dismissed the problem as a hoax in his “Remarks Announcing Candidacy for President” in Springfield, Illinois on 10 February 2007, and finishing with a discussion of proposals to promote alternative energy and fuel-efficient automobiles in the Presidential Debate held at Hofstra University in Hempstead, New York on 15 October 2008. Figure 1 charts the number of Obama’s public statements mentioning climate change by month during the campaign. It shows that he made more references to the issue in 2008 than 2007 with the number of public statements peaking in June and July 2008. These numbers are considerably less than the 311 times that Obama mentioned health care during the campaign, but nonetheless suggest that Obama viewed climate change as a significant issue. An analysis of the content of the various statements and press releases supports this interpretation. Although 43 of the statements devote less than two sentences to climate change, the remaining 24 contain a number of policy proposals that suggest more than a passing interest in the issue.

[Table 1 and Table 2 here]

 Barack Obama’s speeches and press releases reveal an accretion of policy proposals to tackle climate change during the course of the campaign. Table 1 provides an overview of these proposals with the dates of speeches in which they are mentioned. The clear focus is on mitigation strategies to reduce emissions of greenhouse gases, particularly carbon dioxide, with three broad approaches discernible. The first is a set of proposals to reduce reliance upon fossil fuels. These predominantly involve measures to promote renewable or alternative fuels, including nuclear power, but also include calls for the establishment of carbon fuel standards. Obama did not rule out, however, increased domestic fossil fuel production. He stated in “Remarks in Lansing, Michigan” on 4 August 2008, for example, that “…in the short-term, as we transition to renewable energy, we can and should increase our domestic production of oil and natural gas”. The second is a set of proposals to promote energy efficiency. These include raising fuel efficiency standards for automobiles, creating a “smart grid” to provide electrical power more efficiently, and other measures such as setting energy efficiency standards for buildings. The third is a set of proposals to cap or reduce greenhouse gas emissions. These include the use of a cap-and-trade system to meet emission targets, and promises to work with the international community to address the issue. Many of the proposals made by Obama are very general but some contain specific goals. These are listed in Table 2 with the dates of the speeches in which they are first mentioned. They include new standards for fuel; targets for carbon emissions reductions, the use of renewable energy, reductions in electricity consumption, the production of biofuels, the energy efficiency of federal buildings and the production of hybrid cars; and spending commitments to boost the development and use of green energy technology. The timing of these specific proposals shows that most date from the primary campaign with only a few added during the general election.

 Evident in the range of proposals offered by Barack Obama during the 2008 election campaign is a multi-pronged approach to dealing with climate change. This is an important point to note for two reasons. First, it suggests that Obama always intended to tackle the problem through a “broad portfolio of policy actions” rather than a single major law (Nisbet, 2015). Obama made a number of references to the need to enact legislation to cut carbon emissions in his campaign speeches but this was just one of a number of proposals. His speeches place as much emphasis on providing $150 billion over 10 years to promote clean energy technology, for example, as they do on capping carbon emissions. Second, the transaction costs associated with actioning the various proposals vary considerably. Some require the negotiation associated with legislative action while others depend on regulatory authority contained in existing statutes or well-established claims of presidential power to manage the executive branch. A multi-pronged approach to dealing with climate change not only offered to address the problem in a holistic way but also gave Obama greater flexibility to achieve his objectives than a strategy of placing all of his eggs in one legislative basket.

 The identification of the specific promises made by Barack Obama during the 2008 election campaign is a necessary first step in evaluating his success. The next step is to establish what actions were taken to meet these promises. This is not a straightforward task. Presidents have a number of legislative, budgetary, executive, and regulatory means to achieve their goals, and this range of options needs to be recognised when compiling a record of action. In this essay I use a number of databases to search for relevant policy outputs: [govtrack.us](http://govtrack.us) for legislation; OMB reports for budgets; The American Presidency Project for Executive Orders and Presidential Memoranda; and the Federal Register for regulatory action. Each database is searched using “climate change” as a key word and the results mapped against Obama’s campaign promises. The final step is to evaluate whether these policy outputs fulfilled the promises made in the 2008 campaign. This is relatively easy when precise goals exist, but becomes more difficult when promises contain targets well into the future. In such cases I have identified whether policy action was initiated to achieve these intended targets. The important point to remember is that the purpose is to assess policy outputs rather than policy outcomes.[[1]](#endnote-2) Barack Obama made a number of promises to take action to address climate change during the 2008 election campaign and his success or otherwise in fulfilling these promises is what is being assessed rather than the consequences of that action. I am not concerned in this essay with whether greenhouse gas emissions fell as a result of Obama’s actions but with the question of what he managed to do to further his policy goals.

Opportunities and Obstacles

 Barack Obama’s victory in the 2008 presidential election was viewed by many environmentalists as marking the beginning of a new age of climate change politics (Bomberg and Super, 2009; Lynas, 2009; Hobson, 2009). Buoyed by the general euphoria accompanying his election, the promises to address climate change made during the campaign, and Democratic control of Congress, they had high expectations about what the new president would deliver (Todd, 2014). Skocpol notes, for example, that a number of prominent proponents of strong action to combat climate change expected legislation establishing a cap-and-trade system to control greenhouse gas emissions to be enacted in time for the UN Conference on Climate Change scheduled to be held in Copenhagen in December 2009 (2013, 2). Using Kingdon’s (2011) terminology they believed a “policy window” had opened that made major action on climate change possible. Obama had mentioned climate change enough times during the campaign to claim a mandate for action, he had provided details of what he wanted to do, Democrats controlled Congress, and opinion polls revealed high levels of public knowledge and concern about the problem at the time (Duggan, 2014; Saad, 2014). Commitment from the new President appeared all that was necessary to translate campaign promises into policy outputs.

 A closer examination of the political context facing President Obama following his election reveals that the optimism expressed by many environmentalists was misplaced, and that the new president faced many obstacles to implementing his agenda. He not only assumed office during an economic recession, but also at a time of complex partisan politics. Not all congressional Democrats could be relied upon to support Obama’s agenda, and strong Republican opposition made it difficult to construct bipartisan coalitions large enough to pass laws. Put another way: few, if any, Republican defectors were available to compensate for potential Democrats who refused to toe the party line. The problem was particularly acute in the Senate where 60 votes were needed to overcome a filibuster. These conditions placed constraints on Obama’s ability to implement many parts of his domestic agenda but loomed particularly large when it came to making good on his promises to tackle climate change (Jacobs and King, 2010). First, climate change had become one of the signature issues that divided Democrats and Republicans. Deep partisan divisions had been apparent for some time in elite and public attitudes about climate change and what, if anything, to do about the problem (Dunlap, 2008; Nisbet, 2011; Brewer, 2012; Jones, 2014; Saad, 2014; Newport, 2014). Some commentators even suggested that climate change had become part of the “culture wars” that have raged in the United States since the 1970s (Kaufman, 2010; Gerson, 2012; Gillis and Kaufman, 2012). Second, the policy goals outlined by Obama during the election campaign threatened the interests of a number of powerful groups with ample resources to fight their corner. The oil and coal industries had deep pockets and powerful political allies among both Republicans and Democrats in Congress (Layzer, 2007). Unconditional support for action to tackle climate change from Democrats representing energy-producing states and districts could not be taken for granted (Bomberg and Super, 2009). Third, public support for action was fragile. Although opinion polls revealed knowledge and concern about climate change, the issue lacked the saliency or opinion intensity that is normally regarded as necessary for radical policy action (Nisbet, 2011). Even among environmental issues the public had other priorities (Newport, 2014).

 The political context confronting President Obama following his election, combined with the nature of climate change as an issue, raised questions about how his campaign promises could be translated into policy outputs. Two broad schools of thought dominate the literature on how presidents may seek to achieve their policy goals (Moe, 2009; Chiou and Rothenberg, 2014). The first suggests that persuasion or bargaining is the key to the successful translation of goals into outputs (Neustadt, 1990; Tulis, 1988; Kernell, 1997). Presidents establish policy goals and then seek to persuade the public, interest groups, and Congress to support what they want to achieve. To do this they may make rhetorical appeals for public support and engage in the political “black arts” of arm-twisting or trading favours. The second school of thought suggests that Presidents can use the powers of their office to act unilaterally to translate policy goals into outputs (Moe and Howell, 1999; Mayer, 2002, 2009; Howell, 2003; Warber, 2006). Executive Orders and Presidential Memoranda instructing the federal bureaucracy to do something or interpret an existing statute in a particular way offer means of achieving policy goals (Lowande, 2014). The decision facing Obama was which strategy offered the best chance of success. Persuading Congress to take action is difficult at the best of times (Edwards, 1990, 2003), but the problems are compounded in periods of polarised politics and with issues such as climate change. Put simply: persuasion is very difficult when the issue is one of the major fault-lines between the parties and the public fail to see it as a priority. Unilateral action also faces obstacles (Deering and Maltzman, 1999; Krause and Cohen, 2000; Howell, 2003; Rudalevige, 2012; Christenson and Kriner, 2015). Although presidents are often able to make significant changes in policy through unilateral action, both Congress and the federal judiciary possess the power to challenge and overturn unilateral action if the president seeks to move policy in a direction that is politically or constitutionally unacceptable. Disputes about the nature and severity of climate change, and concerns about the economic costs of action, made such challenges likely. The willingness of federal bureaucracies to act upon presidential directives has also been questioned (Mayer, 2009; Rudavelige, 2012; Kennedy, 2015). When Obama tells the Environmental Protection Agency or the Department of Energy to do something about climate change do they, in fact, do what he asked?

 President Obama’s response to the opportunities and constraints facing him initially embraced a mix of bargaining and unilateral action but shifted towards increasing use of his executive powers as congressional opposition to action on climate change hardened following Republican electoral gains. Early in his Administration Obama employed bargaining strategies in his efforts to persuade Congress both to fund a range of green energy projects and enact cap-and-trade legislation *alongside* unilateral strategies that exploited existing regulatory authority to set new fuel efficiency standards, set targets for energy conservation, and reduce emissions of carbon dioxide emissions from power stations, his control over the executive branch to reduce energy consumption, and his role as chief diplomat to negotiate agreements with foreign leaders (Adler, 2011; Freeman, 2011; Osofsky, 2011; Wold, 2012). The ultimate failure of the Senate to pass cap-and-trade legislation in July 2010, however, changed this twin-track strategy (Outka, 2016). Confronted with congressional unwillingness to act on climate change Obama abandoned efforts to persuade opponents and resorted to unilateral action to achieve his policy goals. Obama presumably calculated that federal bureaucracies would do as he asked, opponents in Congress would not be able to muster sufficient votes to resist such action, and the federal courts would uphold his authority to act. The first and second calculations proved correct. Rules and regulations were promulgated in response to Obama’s directives, and congressional opponents proved unable to overcome familiar collective action problems to frustrate Obama’s exercise of power (Macey, 2006; Moe and Howell, 1999). The final calculation proved incorrect. Various federal courts upheld a number of challenges to Obama’s claims of power, and in February 2016 the Supreme Court halted implementation of the Administration’s Clean Power Plan (Ferrey, 2016; Adler, 2016).

*The Limits of Persuasion*

 President Obama’s efforts to persuade Congress to enact legislation that fulfilled some of his campaign promises began when he recognised that the Great Recession offered an opportunity to boost spending on a range of energy-related projects. Obama’s aides had a number of meetings with key congressional leaders and staff members before he took office to ensure that an economic stimulus bill included substantial funding for green energy initiatives, and continued such contacts after the American Recovery and Reinvestment Act (ARRA) had been introduced (Grunwald, 2012). Obama also met with legislators and took to the airwaves to garner public support for action. Between his inauguration on 20 January 2009 and congressional passage of the ARRA on 13 February 2009 Obama made 22 public statements, including three weekly addresses and interviews with major news channels, that mentioned energy-related initiatives contained within the stimulus plan. No mention of climate change appeared in these statements as Obama framed the need for action in terms of energy independence and green jobs in an effort to avoid the disputes about science that typically characterised debates about global warming in Congress (Keller, 2009). This combination of rhetorical appeals for support that framed the issue in economic and energy terms and personal lobbying of legislators paid dividends when Congress passed the ARRA. Obama signed the law in Denver on 17 February 2009. In remarks made at the signing ceremony Obama noted that “we are taking big steps down the road to energy independence, laying the groundwork for new green energy economies that can create countless well-paying jobs. It’s an investment that will double the amount of renewable energy produced over the next 3 years”.

 Passage of the ARRA was a promising start to the task of translating policy goals into policy outputs and appeared to vindicate a strategy based on persuasion. The law included $42 billion for energy-related investments, $21 billion to develop energy efficient vehicles and transportation systems, $21 billion for energy-related tax incentives, $1.6 billion for Clean Renewable Energy Bonds, and $570 million for climate science research (c2es, 2009; US Department of State, 2010)). Provisions included funding or tax credits for the development of renewable sources of energy (solar, wind, hydro), power transportation systems (the smart grid), geothermal technology, improved batteries, electric vehicles, new fuel-cell technology, and promoting energy efficiency. The subsequent fate of President Obama’s efforts to enact a cap-and-trade law, however, highlights the limits of a strategy based on persuasion. Persuasion proved successful in the case of the ARRA because the public demanded action to tackle the economic crisis, the distributive nature of the law reduced interest group opposition, and Democratic legislators remained sufficiently unified to provide majorities despite Republican opposition (just 11 House Republicans and 3 Senate Republicans voted for the measure) (Bailey, 2015, 127-128). None of these factors held true for cap-and-trade legislation. An opinion poll published by PEW in January 2009 revealed that public support for action to tackle climate change had fallen over the previous year (PEW, 2009), powerful economic interests were ready to fight a new regulatory regime (Krauss and Mouawad, 2009; Broder and Mouawad, 2009), and the support of Democratic legislators could not be assured (Broder, 2009). Many Democrats feared that cap-and-trade would prove an economic burden during a recession and slow recovery, and those representing constituencies dependent upon energy-extraction industries worried about job losses that might follow the imposition of any limits on greenhouse gas emissions.

 President Obama’s strategy to persuade Congress to enact a cap-and-trade law involved rhetorical appeals to the public and vested interests that stressed the need for action to tackle climate change, “going public” on a few occasions to call specifically for enactment of a cap-and-trade law, and last minute efforts to secure the votes of legislators. The first element of this strategy sought to place and keep climate change on the public agenda. Data from The American Presidency Project shows that in the 21 months from his election in November 2008 to the collapse of efforts to enact cap-and-trade legislation in July 2010 Obama made 341 public statements that mentioned climate change. These ranged from major set piece speeches such as his Inaugural Address on 20th January 2009, his Address Before a Joint Session of the Congress on 24 February 2009, and his State of the Union Address on 27 January 2010 to “Remarks” given in a variety of settings. In these public statements Obama stressed the importance of addressing climate change, and often framed the issue in terms of energy security and green jobs in an attempt to build upon the message he had used when seeking support for the ARRA. The second element of the strategy sought to persuade the public and legislators that enactment of a cap-and-trade law was essential to reducing carbon dioxide emissions. During the period when the legislation was under consideration Obama mentioned cap-and-trade in 18 public statements. This modest level of public engagement is at odds with the barn-storming activity usually associated with “going public” (Kernell, 1997), where presidents try frenetically to court public opinion to influence Congress, but still represents an effort to mobilise support for his preferred policy option. The third element of the strategy involved personal lobbying of wavering legislators, particularly Democrats, before the floor vote in the House of Representatives. Reports suggest that Obama’s intervention was vital to passage of cap-and-trade legislation (The American Clean Energy and Security Act) in the House of Representatives on 29 June 2009 by 219 votes to 212 votes (Pooley, 2010, 396).

 Just over a year after the House had passed the American Clean Energy and Security Act Senate Majority Leader Harry Reid (D. NV) announced that the Senate would not take any further action on cap-and-trade legislation. “We know where we are”, Reid stated at a press conference on 21 July 2010, “We know that we don’t have the votes” (Hulse and Herzenhorn, 2010). This failure to obtain Senate approval for cap-and-trade legislation illustrates the difficulty of engineering change on an issue like climate change in a period of polarised politics. The problem confronting President Obama was that Republican senators resolutely refused to offer any support for a cap-and-trade law. Republican leaders viewed cap-and-trade as an issue that would harm Democrats in the 2010 mid-term elections and put intense pressure on potential supporters to vote against passage. Even Senators John McCain (R. AZ) and Lindsey Graham (R. SC) who had supported cap-and-trade in the past refused to back Obama. Democratic senators also expressed reservations about the electoral consequences of action, particularly after Republican Scott Brown won a special election in January 2010 to fill the vacancy caused by the death of Senator Edward Kennedy (D. MA) (Broder, 2009). Despite his rhetoric about creating green jobs and boosting the country’s energy security Obama failed to convince wavering Democrats such as Senator Mary Landrieu (D.LA) that support for cap-and-trade would help her re-election prospects. Events further complicated Obama’s task by undermining his deal-making capacity. Efforts to win conservative votes by agreeing to exploratory drilling in new off-shore areas unravelled as the Deepwater Horizon oil spill in the Gulf of Mexico reinforced liberal opposition to further concessions and made further negotiations impossible (Herbert, 2013, 30).

 The results of the 2010 mid-term and subsequent elections ended the prospect of Congress enacting cap-in-trade legislation advocated by President Obama. Not only did the Republicans capture the House of Representative in 2010 and the Senate in 2014, but the party shifted further to the right as the Tea Party revolt that began in 2009 led to the election of large numbers of conservative candidates (Skocpol and Williamson, 2012). Most Republicans viewed action to address climate change with hostility and vowed to resist efforts to regulate greenhouse gas emissions. These changes in the partisan and ideological composition of Congress frustrated Obama’s persuasive efforts and forced a greater reliance upon efforts to fact unilaterally. This was not a simple switch from one strategy to another because Obama’s attempts to translate his policy goals into policy outputs had been multi-pronged from beginning. From the outset of his Administration he had used his executive authority to advance his agenda on climate change. Republican gains in Congress, however, gave these approaches increased prominence. Although Obama still made the occasional speech calling for Congress to enact legislation to address climate change, the apparent purpose of such appeals appeared to be to legitimise his unilateral action rather than persuade legislators to act. In his State of the Union Address delivered on 12 February 2013, for example, he urged “this Congress to get together, to pursue a bipartisan, market-based solution to climate change”, but warned that “if Congress won’t act soon to protect future generations, I will”. In June 2013 Obama made good on his threat and published a “Climate Action Plan” which listed a number of unilateral initiatives that the Administration had taken and would be taking to address climate change (Obama, 2013). Among these initiatives were proposals to cut greenhouse gas emissions from power stations, increase fuel economy standards, and set new energy efficiency standards for a range of electrical appliances.

*Unilateral Action*

President Obama employed three types of unilateral authority from the outset of his Administration to advance his climate change agenda. First, he issued Executive Orders and Presidential Memoranda that set out government policy and instructed the federal bureaucracy to behave in a certain way.[[2]](#endnote-3) These often required federal bureaucracies to meet targets for improved energy efficiency or use the procurement power of the federal government to engineer change. Second, he issued Executive Orders and Presidential Memoranda that directed bureaucrats to use their existing regulatory authority to achieve policy objectives (Kagan, 2001). These typically either prodded bureaucrats to take regulatory action or instructed them to interpret statutes in new ways. Examples of the former include instructions to set new fuel economy standards for motor vehicles and energy efficiency standards for a range of domestic appliances, while an example of the latter is a directive to use the Clean Air Act to regulate Carbon Dioxide. Finally, Obama used his diplomatic authority to negotiate executive agreements with foreign countries that addressed climate change. These ranged from bilateral agreements that covered areas such as research and co-operation on adapting to climate change to the comprehensive multilateral agreement signed at the UN Conference on Climate Change held in Paris in December 2015. The significance of executive agreements is that unlike treaties they do not require the approval of the US Senate (Garcia, 2015).

[Table 3 here]

 A list of the Executive Orders and Presidential Memoranda issued by President Obama to advance his climate change agenda is provided in Table 3. The Table shows that Obama employed both Orders and Memoranda from the beginning of his term in office, and that the number of such unilateral directives actually fell after 2009. These efforts to use his unilateral powers to translate policy promises into policy outputs covered all the broad ways of addressing climate change that Obama had mentioned to during the 2008 election campaign (see Table 1). Through a combination of Orders and Memoranda Obama sought to provide federal leadership and force regulatory action to reduce reliance upon fossil fuels by promoting alternatives, promote energy efficiency, and reduce greenhouse gas emissions from sources such as automobiles and power stations. A number of unilateral directives also showed a willingness to use executive power to address concerns not mentioned during the election campaign. These included efforts to promote adaptation to the consequences of climate change.

 The Executive Orders and Presidential Memoranda issued by President Obama clearly established policy preferences and acted as expressions of policy intent. Less certain is whether they led to policy outputs as they are not self-executing and rely upon federal bureaucrats to take action (Mayer, 2009; Rudavelige, 2012; Kennedy, 2015; Christenson and Kriner, 2015). The critical question is did federal bureaucrats act in the way Obama wanted? Answering this question is not easy as the internal workings of the federal bureaucracy are often hidden from public scrutiny. Comprehensive information detailing what action federal bureaucracies have taken to meet the requirement of EO 13514 to create sustainable buildings, for example, is not readily available. What can be measured, however, is whether Obama’s unilateral directives led to regulatory action. Table 4 shows the final rules promulgated by the federal bureaucracy in response to Obama’s Orders and Memoranda. The Table reveals a range of regulatory action in a number of areas, but the main emphasis has been on using the Clean Air Act (1990) and various energy statutes to reduce greenhouse gas emissions from motor vehicles and power stations, and setting energy conservation standards for a large number of consumer products. The potential effect of this regulatory action is considerable. The revised emission standards for automobiles and light trucks issued in August 2012 established a 54.5 mpg fuel economy standard to be achieved by 2025 (EPA, 2012). This was nearly double the fuel economy standard of 27.5 mpg in existence when Obama took office in 2009, and was predicted to reduce carbon pollution by 570 million metric tons by 2030 by reducing the amount of fuel used for transportation (UCS, 2017). The greenhouse gas emission standards for existing power stations issued in August 2015 (known as the Clean Power Plan) were predicted to reduce carbon pollution by 32% below 2005 levels by 2030 (EPA, 2015). The Environmental Defense Fund called the Clean Power Plan “the most significant step in U.S. history towards reducing the pollution that causes climate change” (EDF, 2017). And the various energy conservation standards for appliances, commercial equipment, and federal buildings issued between 2009 and 2016 were predicted to reduce carbon pollution by at least 3 billion metric tons cumulatively by 2030 (DOE, 2016). This was equivalent to nearly half the carbon pollution from the entire US energy sector for one year.

[Table 4 here]

 Further evidence that federal bureaucrats acted when President Obama told them to can be found in the reaction of opponents to the regulatory action taken during his Administration. Although the automobile industry largely accepted tougher fuel economy standards as part of the price of securing federal financial help to survive the recession, the power and coal industries proved not so acquiescent and called upon supporters in Congress to block the Administration’s regulatory efforts, particularly the Clean Power Plan (Daniels, 2011; Baker and Davenport, 2014). Data provided by the Center for Climate and Energy Solutions shows a steady rise in congressional attempts to rein in the regulatory capacity and authority of the EPA to promulgate rules restricting greenhouse gases during Obama’s time in office (c2es, 2016). Twenty one bills to cut off funding to the EPA or amend the Clean Air Act to make clear that carbon dioxide was not a gas that came under the purview of the law were introduced in the 111th Congress (2009-2010). This number rose to 40 bills in the 112th Congress (2011-2012), 58 bills in the 113th Congress (2013-2014), and 50 bills were introduced in the 114th Congress (2015-2016) to reverse or express disapproval of action taken by the Administration.[[3]](#endnote-4) Four of these bills passed the House of Representatives in both the 112th and 113th Congresses but failed to pass the Senate. In the 114th Congress two resolutions, however, passed both chambers. S.J. Res 23 and S.J. Res 24 expressed congressional disapproval of draft carbon pollution standards and carbon pollution emission guidelines. Both were vetoed by President Obama on 18 December 2015 who also issued two Memorandum of Disapproval explaining his action. Data on federal climate change expenditures also reveals that President Obama successfully blocked Republican efforts to use budgetary means to reduce spending on climate change (OMB, 2013; CRS, 2013; IPS, 2016). The overall trajectory of climate change expenditures shows modest increases in the years after passage of the ARRA despite Republican gains in Congress.

 The inability of Congress to challenge successfully the unilateral action taken by President Obama to advance his climate change agenda reveals limits to the “power of the purse” and statutory revision. In an institutional setting where enacting legislation is usually difficult at the best of times, the prospects of overcoming the collective action problems that dog congressional action on an issue like climate change are not high (Howell, 2003; Mayer, 2009; Christenson and Kriner, 2015). The difficulty of obtaining a super majority in the Senate to invoke cloture, the ability of the president to veto legislation, and the need for further super majorities in both the House and the Senate to overturn a presidential veto give presidents a significant advantage in battles with Congress. President Obama successfully calculated that congressional opponents would be unable to challenge his unilateral action on climate change under these circumstances. The judiciary, however, presented more of an obstacle to Obama’s efforts to engineer policy change. Howell (2003) has suggested that the courts usually defer to claims of presidential power, but this proved not to be the case with the Administration’s efforts to use the Clean Air Act to regulate greenhouse gas emissions (Coover, 2015). The EPA’s efforts to regulate emissions from power stations in the Clean Power Plan prompted legal challenges from industry groups and a number of state governments on the grounds that such action was based on an improper construction of the Clean Air Act and was arbitrary and capricious (Rudalevige, 2016). The US Supreme Court had initially indicated that the EPA might regulate greenhouse gases under the Clean Air Act in *Massachusetts v. EPA* (2007) and although the Court upheld the EPA’s regulatory authority to do this in *Utility Air Regulatory Group v. EPA* (2014), it also ruled that the the threshold that the EPA had established for regulating emissions ignored clear statutory language. In oral argument Justice Kagan mused that the EPA appears to want “complete discretion to do whatever it wants, whenever it wants” (134 S. Ct. 2427). A year later the Court made a similar point in *Michigan v. EPA* (2015) when it struck down the EPA’s regulations governing greenhouse gas emissions from power stations for failing to take full account of the costs they imposed. The majority opinion declared that the EPA was guilty of “interpretive gerrymandering” that “keeps parts of statutory context it likes while throwing away parts it does not” (135 S. Ct. 2708). The Court issued another warning about the EPA’s actions in February 2016 when it blocked the implementation of regulations restricting greenhouse gas emissions from power stations until a case (*West Virginia v. EPA*) pending before the Court of Appeals in Washington DC had been decided (Meyer, 2016; Liptak and Davenport, 2016). This was the first time that the Court had ordered a federal agency to stop regulatory action while a case was being considered in a lower court, and signalled unease about the EPA’s actions. Overall, the Court’s rulings in these cases displayed a willingness to allow the EPA to exploit the vagueness of the term “air pollutant” in the Clean Air Act to encompass greenhouse gases, but drew a line when regulators ignored clear statutory language.

 President Obama’s efforts to provide leadership in international negotiations about climate change also faced domestic challenges that shaped his approach. First, continued congressional support for the sentiment underpinning the Byrd-Hagel Resolution of 1997 made Senate ratification of a climate change treaty that required the United States to meet legally binding greenhouse gas emission targets unlikely.[[4]](#endnote-5) To overcome this potential congressional roadblock Obama resorted primarily to negotiating executive agreements rather than treaties with foreign leaders as they do not require Senate ratification (Garcia, 2015). Second, the failure to enact cap-and-trade legislation early in his first Administration, and the numerous congressional and legal challenges to his unilateral action, undermined Obama’s negotiating position with foreign leaders. Not only did domestic opposition to climate change action restrict what Putnam (1988) has termed the “win set” of positive outcomes, but doubts about Obama’s ability to deliver also created problems when persuading other countries to act. Obama needed both to find solutions that were acceptable to domestic and international constituencies, and to demonstrate domestic success to secure international agreement for action beyond the symbolic.

 The difficulty of securing the two-thirds majority in the Senate needed to approve ratification of a treaty meant that President Obama largely abandoned treaty-making to achieve his climate change goals. The only climate treaty successfully negotiated by the Administration was a multilateral treaty phasing out hydrofluorocarbons (HFCs) signed by Secretary of State John Kerry in Kigali, Rwanda in October 2016 (Davenport, 2016). The Administration hoped that the Treaty would prove acceptable to Congress as an amendment to the 1987 Montreal Protocol that phased out chlorofluorocarbons, but Republican senators immediately indicated that they would block ratification on the grounds that the measure was designed to tackle climate change rather than destruction of the ozone layer (Upton, 2016). To reduce the potential for such congressional obstruction Obama’s diplomatic efforts on climate change focused on securing bilateral and multilateral executive agreements with other countries that did not require ratification. Although obtaining precise data on the use of executive agreements by the Administration is difficult because of delays or failures to report such action, an indication of the number and scope of such agreements can be found on the State Department’s website ([www.state.gov/s/1/treaty/caseasct/](http://www.state.gov/s/1/treaty/caseasct/) and [www.state.gov/s/1/treaty/tias/index.htm](http://www.state.gov/s/1/treaty/tias/index.htm)). This data reveals that the Administration concluded at least 40 unilateral executive agreements or memoranda of understanding with 21 different countries (including the European Union), and at least three multilateral agreements with international organisations, that addressed climate change. Not included in the State Department’s list of agreements is the multilateral agreement negotiated in Paris in December 2015 to succeed the 1997 Kyoto Protocol on climate change. The Paris Accord contained a pledge that the United States would reduce carbon emissions by 26% to 28% by 2025 compared to their level in 2005. Obama assiduously described the Accord as a political or executive agreement that did not need Senate approval, and personally ratified it during a visit to China in September 2016.

 A key component of the negotiations that led to the Paris Accord was President Obama’s diplomatic efforts to reach agreement with China (and to a lesser extent India) about the best way to proceed. Following a disappointing conclusion to the Copenhagen Conference on Climate Change in December 2009, when Obama’s efforts to persuade other countries to agree a new climate treaty were shunned by Chinese and other leaders, a new emphasis was placed on reaching out to China (Bodansky, 2010). This diplomacy began to bear fruit following the 2012 election when Obama’s unilateral action to regulate greenhouse gases from power stations helped to persuade the Chinese that the Administration was serious about addressing climate change. In November 2014 the United States and China jointly announced the greenhouse gas reduction targets they would agree at the Paris Conference in December 2015, and in September 2015 a *US-China Joint Presidential Statement on Climate Change* gave details of the two countries’ commitment to addressing climate change. The fact that Obama ratified the Paris Accord during a visit to China provided symbolic acknowledgement of the importance of these bilateral negotiations. President Obama’s climate diplomacy, however, did not go unchallenged on the domestic stage. A number of bills were introduced in Congress during his second term which sought to cut off funding for the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC), to prohibit funding for negotiating or entering into international agreements which established limits on greenhouse gas emissions, or to set conditions that needed to be met in negotiations over a new climate agreement. None of these measures secured enough votes to pass either the House or the Senate. Republican senators also expressed outrage over Obama’s ratification of the Paris Accord which they believed violated constitutional requirements that Senate approval was needed for such an agreement (Richardson, 2016).

*Conclusion*

 President Obama’s record of translating campaign promises to tackle climate change into policy outputs reveals a considerable amount of success. Although he failed to persuade Congress to enact cap-and-trade legislation, he took advantage of the opportunities presented by the Great Recession to secure agreement for increased funding for green energy projects in the ARRA, and successfully used his unilateral executive authority to prompt federal bureaucracies to take regulatory action, and his diplomatic powers to provide leadership in the international arena. This is not to say that such action allowed Obama to meet the specific goals mentioned in his campaign speeches (see Table 2), but rather that he initiated action in all the broad areas that he had signalled would form the basis of his approach to addressing climate change (see Table 1). He proved sufficiently sensitive both to political and regulatory opportunities to navigate a hostile policy landscape with a considerable degree of success. Little was innovative in these strategies. Presidents have long used a variety of means to achieve their goals, including the creative interpretation of existing statutory language. Obama’s achievement lay in the way he used these various means to translate policy promises into policy outputs in difficult circumstances. The record shows that, for climate policy at least, Obama managed to bridge the gap between promises and performance that has been a common feature of US politics for several decades. Credit for such an achievement needs to be taken into account when debating his record on climate change in particular, and his “green” credentials in general.

 The problem with President Obama’s strong reliance on unilateral executive action to translate policy promises into policy outputs lies in their permanence given the election of President Trump and continued Republican majorities in Congress. Trump and many congressional Republicans expressed scepticism about climate science in the 2016 election and promised to reverse key actions taken by the Obama Administration. The “stickiness” of different policy outputs become important in this context (Kriner, 2017). Laws are sticky. Repealing a law is not easy as it requires the collective action problems that usually characterise congressional politics to be overcome. Reversing unilateral executive action is less difficult, although different outputs have different levels of “stickiness”. Executive agreements, procurement decisions, and instructions to federal bureaucrats to set and meet standards can be reversed by the stroke of a successor’s pen. Well-established regulations are less easy to reverse as the Administrative Procedure Act (1946) sets out a legal procedure for rule-making. Nullifying existing regulations is time-consuming unless they have been promulgated within 60 days in which case the Congressional Review Act (1996) gives Congress an opportunity to remove them from the *Federal Register*. Budget decisions can also effectively eviscerate existing policy outputs by de-funding them. President Obama may have established a good record of translating policy goals into policy outputs, but his tendency to advance his agenda through unilateral executive action offered his successor many opportunities to change the direction of policy. Within six months of taking office President Trump had issued an Executive Order requiring a review of the Clean Power Plan, announced that the United States would withdraw from the Paris Agreement, and suggested that fuel economy standards would be relaxed.

Notes

1 The meaning of the terms policy outputs and policy outcomes is subject to debate (see Cairney, 2012: Knill and Tosun, 2012). In this essay the term policy output is used to describe government action (legislative, administrative, budgetary) that is intended to address an issue. The term policy outcome describes the consequences of that action.

2 There is no practical difference between Executive Orders and Presidential Memorandum. Executive Orders get the most attention as they are the most visible but Presidential memorandum can be used to achieve the same ends. See Rudalevige (2016).

3 The data for the 114th Congress was obtained from [govtrack.us](http://govtrack.us)

4 The Byrd-Hagel Resolution expressed the sense of the Senate that the United States should not sign a climate change treaty that mandated greenhouse gas emissions unless developing countries also made commitments to reduce their emissions, or would result in “serious harm to the economy”.

References

Adler, J. H. 2011. Heat Expands All Things: The Proliferation of Greenhouse Gas Regulation Under the Obama Administration, *Harvard Journal of Law and Public Policy*, 34, 421-452

Adler, J. H. 2016. Supreme Court Puts the Brakes on the EPA’s Clean Power Plan, *The Washington Post*, 9 February. A1

Bailey, C.J. 2015. *U.S. Climate Change Policy*. Farnham: Ashgate.

Baker, P. and Davenport, C. 2014. Using Executive Powers, Obama Begins His Last Big Push on Climate Change, *The New York Times*, 31 May. A21

Bodansky, D. M. 2010. The Copenhagen Climate Change Conference: A Postmortem, *The American Journal of International Law*, 104 (2), 230-240

Bomberg, E. and Super, B. 2009. The 2008 US Presidential Election: Obama and the Environment, *Environmental Politics*, 18(3), 424-30

Brewer, P. R. 2012. Polarisation in the USA: Climate Change, Party Politics, and Public Opinion in the Obama Era, *European Political Science*, 11 (1), 7-17

Broder, J.M. 2009. Climate bill is threatened by senators. *The New York Times*. 7 August. A12

Broder, J.M. and Mouawad, J. 2009. Energy firms deeply split on bill to battle climate change. *The New York Times*. 19 October. A1

c2es 2009. Key Provisions: American Recovery and Reinvestment Act. Avaliable from: http://www. [c2es.org/docUploads/Pew-Summary-ARRA-KeyProvisions.pdf](http://c2es.org/docUploads/Pew-Summary-ARRA-KeyProvisions.pdf) [Accessed 20 November 2015].

c2es 2016. Climate and Energy Action in Congress Available from: http://www. [c2es.org](http://c2es.org). [Accessed 30 September 2016].

Cairney, P. 2012. *Understanding Public Policy*. Houndmills: Palgrave Macmillan.

Chait, J. 2013. Obama Might Actually Be the Environmental President, *New York Magazine*, 5 May. Available from: <http://www.nymag.com/news/features/obama-climate-change-2013-5/> [Accessed 15 September 2016].

Chiou, F-Y. and Rothenberg, L.S. 2014. The Elusive Search for Presidential Power. *American Journal of Political Science*, 58(3), 653-668

Christenson, D. and Kriner, D.L. 2015. Political Constraints on Unilateral Executive Action, *CaseWestern Reserve Law Review*, 65(4), 897-931

Claibourn, M. 2011. *Presidential Campaigns and Presidential Accountability*. Urbana, ILL: University of Illinois Press.

Coover, D. M. 2015. Square Pegs and Round Holes: Why The Environmental Protection Agency’s New Section 111 Greenhouse Gas Regulations Do Not Fit In With Supreme Court Precedent Or Congressional Intent in the Clean AirAct, *Texas Environmental Law Journal*, 45 (1), 2-30

CRS 2013. Federal Climate Change Funding from FY2008 to FY2014. Congressional Research Service. Washington DC. 13 September.

Daniels, B. 2011. Addressing Global Climate Change in an Age of Political Climate Change, *Brigham Young University Law Review*, 2011 (6), 1899-1935

Davenport, C. 2016. Nations, Fighting Powerful Refrigerant That Warms Planet, Reach Landmark Deal, *The New York Times*, 15 October. A1

Deering, C. J. and Maltzman, F. 1999. The Politics of Executive Orders: Legislative Constraints on Presidential Power, *Political Research Quarterly*, 52(4), 767-83.

DOE 2016. FACT SHEET: Saving Energy and Money with Appliance and Equipment Standards in the United States - Updated October 2016. Avaliable from: http://[www.doe.org](http://www.doe.org) [Accessed 16 September 2016]

Duggan, A. 2014. Americans Most Likely To Say Global Warming is Exaggerated, Gallup Organization, 17 March.

Dunlap, R. E. 2008. Climate-Change Views: Republican-Democratic Gaps Expand, Gallup Organization, 29 May

EDF. 2017. A new national clean power plan. Environmental Defense Fund. Available from: http://[www.edf.org/climate/a-new-federal-clean-power-plan](http://www.edf.org/climate/a-new-federal-clean-power-plan). [Accessed 11 September 2017].

Edwards, G. C. 1990. *At the Margins: Presidential Leadership of Congress.* New Haven, CN: Yale University Press.

Edwards, G. C. 2003. *On Deaf Ears: The Limits of the Bully Pulpit.* New Haven, CN: Yale University Press.

Edwards, G. C. 2009. *The Strategic President: Persuasion and Opportunity in Presidential Leadership.* Princeton, NJ: Princeton University Press.

EPA 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025. August. Available from: http://[www3.epa.gov/otaq/climate/documents/420f12051.pdf](http://www3.epa.gov/otaq/climate/documents/420f10014.pdf) [Accessed 29 November 2015].

EPA 2015. FACT SHEET: Clean Power Plan By The Numbers. Available from: http:// [www.epa.org](http://www.epa.org) [Accessed 20 October 2016].

Fishel, J. (1985) *Presidents and Campaign Promises*. Washington, DC: CQ Press.

Fording, R. C.and Smith, J.L. 2012. Barack Obama’s ‘Fight’ to End Poverty: Rhetoric and Reality, *Social Science Quarterly,* 93(5), 1161-84

Freeman, J. 2011. The Obama Administration’s National Auto Policy: Lessons from the Car Deal, *Harvard Environmental Law Review*, 35: 344-374

Garcia, M. J. 2015. International Law and Agreements: Their Effect upon US Law, Congressional Research Service Report, 18 February.

Gerson, M. 2012. Climate and the Culture War, *The Washington Post*, 16 January. A13

Gillis, J. and Kaufman, L. 2012. Leak Offers Glimpse of Campaign Against Climate Science, *The New York Times*, 15 February. A23.

Goodall, J. 2013. Obama’s Climate Challenge, *Rolling Stone*, 17 January. Available from: <http://www.rollingstone.com/politics/news/obamas-climate-change-20130117> [Accessed 15 September 2016]

Goodell, J. 2014. Obama’s Last Shot, *Rolling Stone*, 23 April. Available from: <http://www.rollingstone.com/politics/news/obamas-last-shot-20140423> [Accessed 15 September 2015]

Gore, A. 2011. Climate of Denial, *Rolling Stone*, 22 June. Available from: <http://rollingstone.com/politics/news/climate-of-denial-20110622> [Accessed 15 September 2015]

Grunwald, M. 2012. *The New New Deal: The Hidden Story of Change in the Obama Era.* New York: Simon and Schuster.

Herbert, J. 2013. The politics of presidential strategy, in J. Dumbrell, ed. *Issues in American Politics*, Abingdon: Routledge. 28-43

Hobson, M. K. 2009. The Greenest White House in History, *National Journal*, 26 November. 20-29

Howell, W. G. 2003 *Power without Persuasion: The Politics of Direct Action.* Chicago: University of Chicago Press.

Hulse, C. and Herzenhorn, D.M. 2010. Democrats Call Off Climate Bill Effort, *The New York Times*, 22 July. A15

IPS 2016. Combat vs climate: the military and climate security budgets compared. Institute for Policy Studies. Washington, DC. October.

Jacobs, L. R. and King, D.S. Varieties of Obamaism: Structure, Agency, and the Obama Presidency. *Perspectives on Politics*, 8(3), 793-802

Jones, J. 2014. In US, Most Do Not See Global Warming As A Serious Problem, Gallup Organization, 13 March.

Kagan, E. 2001. Presidential Administration, *Harvard Law Review,* 114, 2245-2385

Kaufman, L. 2010. Darwin Foes Add Warming to Targets, *The New York Times,* 3 March. A1

Keller, A. C. 2009. *Science in Environmental Policy.* Cambridge, MA: MIT Press.

Kennedy, J. B. 2015. “‘Do This! Do That! and Nothing Will Happen’: Executive Orders and Bureaucratic Responsiveness”, *American Politics Research,* 43(1), 59-82

Kernell, S. 1997. *Going Public: New Strategies of Presidential Leadership*, Washington, DC: CQ Press.

Kincaid, G. and Roberts, J.T. 2013. No Talk, Some Walk: Obama Administrations First-Term Rhetoric on Climate Change and US International Climate Budget Commitments, *Global Environmental Politics*, 13 (4), 41-60

Kingdon, J. W. 2011. *Agendas, Alternatives, and Public Policies*, Revised 2nd edition. New York: Longman.

Knickerbocker, B. 2010. Activists Frustrated at Obama’s Environmental Record. *Christian Science Monitor*, 25 July. Available from: <http://csmonitor.com/environment/2010/0725/activists-frustrated-at-Obamas-environmental-record>. [Accessed 8 March 2015]

Knill, C. and Tosun, J. 2012. *Public Policy*. Houndmills: Palgrave Macmillan.

Krause, G. and Cohen, D. 2000. Opportunity, Constraints, and the Development of the Institutional Presidency: The Case of Executive Order Issuance, 1939-1996. *Journal of Politics*, 62 (1), 88-114

Krauss, C. and Mouawad, J. 2009. Oil industry backs protests over emissions bill. *New York Times*. 19 August. B1

Kriner, D. L. 2017 The Presidency in Gillian Peele *et al.* eds. *Developments in American Politics 8.* Basingstoke: Palgrave. Forthcoming.

Krukones, M.G. 1984. *Promises and Performance: Presidential Campaigns as Policy Predictors*. Lanham, MD: University Press of America.

Layzer, J.A. 2007. Deep Freeze: How Business Has Shaped the Global Warming Debate in Congress. *In:* M.E. Kraft and S. Kamieniecki, eds. B*usiness and Environmental Policy*. Cambridge: Cambridge University Press. 93-126.

Lemann, N. 2013. When the Earth Moved, *New Yorker*, 15 April. Available from: <http://www.newyorker.com/magazine/2013/04/15/when-the-earth-moved> [Accessed 12 August 2014]

Liptak, A. and Davenport, C. 2016. Supreme Court Deals Blow to Obama’s Efforts to Regulate Coal Emissions, *The New York Times*, 9 February. A1

Lizza, R. 2010. As the World Burns, *New Yorker*, 11 October. Available from: <http://newyorker.com/magazine/2010/10/11/as-the-word-burns> [Accessed 8 August 2011]

Lowande, K. S. 2014. After the Orders: Presidential Memoranda and Unilateral Action, *Presidential Studies Quarterly*, 44 (4), 724-741.

Lynas, M. 2009. A New Green Era Is Already Unfolding, *New Statesman*, 19 January. Available from: <http://newstatesman.com/environment/2009/01/lynas-obama-economy-green> [Accessed 8 August 2011]

Marschall, M. J. and McKee, R. J. 2002. From Campaign Promises to Presidential Policy: Education Reform in the 2000 Election. *Educational Policy*. 16 (1), 96-117

Mayer, K. R. 2002. *With the Stroke of a Pen: Executive Orders and Presidential Power.* Princeton, NJ: Princeton University Press.

Mayer, K. R. 2009. Going Alone: The Presidential Power of Unilateral Action. *In* G. C. Edwards and W. G. Howells, eds. *The Oxford Handbook of the American Presidency.* New York: Oxford University Press. 427-54

Meyer, R. 2016. The Supreme Court’s Devastating Decision on Climate, *The Atlantic*, 10 February. Available from: <http://www.theatlantic.com/technology/archive/2015/02/the-supreme-courts-devastating-decision-on-climate/462108/> [Accessed 16 September 2016]

McKibben, B. 2013. Obama and Climate Change: The Real Story, *Rolling Stone*, 19 December. Available from: http://www.rollingstone.com/politics/news/obama-and-climate -change-the real-story-20131217

Moe, T. M. 2009. The Revolution in Presidential Studies, *Presidential Studies Quarterly*, 39(4), 701-24

Moe, T. M. and Howell, W.G. 1999. The Presidential Power of Unilateral Action, *Journal of Law, Economics, and Organization,* 15(1), 132-79.

Neustadt, R. E. 1990. *Presidential Power and the Modern Presidents: The Politics of Leadership from Roosevelt to Reagan.* Revised edition. New York: Simon and Schuster.

Newport, F. 2014. Americans Show Low Levels Of Concern On Global Warming. Gallup Organization, 4 April.

Nisbet, M. C. 2011. Public Opinion and Participation, in J. S. Dryzek, R. B. Norgaard, and D. Schlosberg, eds. *The Oxford Handbook of Climate Change and Society.* Oxford: Oxford University Press. 355-368

Nisbet, M. C. 2015. Environmental Advocacy in the Obama Years: Assessing New Strategies for Political Change in N. J. Vig and M. E. Kraft, eds. *Environmental Policy: New Directions for the Twenty-First Century.* 9th edition. Washington, DC: CQ Press. 58-78

Obama, B. 2013. The President’s Climate Action Plan. Executive Office of the President, June.

OMB 2013. Federal climate change expenditures report to Congress. Office of Management and Budget. Washington, DC. August

Osofsky, H. M. 2011. Diagonal Federalism and Climate Change: Implications for the Obama Administration, *Alabama Law Review*, 62 (2), 237-303

Outka, U. 2016. The Obama Administration’s Clean Air Act Legacy and the UNFCCC, *Case Western Reserve Journal of International Law*, 48 (1),109-125

PEW (2009) “Economy, Jobs Trump All Other Policy Priorities in 2009”. Available from: Pew Research Center, 22 January. [www.pwoplw-press.org/report/485/economy-top-policy](http://www.pwoplw-press.org/report/485/economy-top-policy)-priority. [Accessed 13 July 2009].

Pomper, G.P. 1968. *Elections in America*. New York: Dodd, Mead & Co.

Pooley, E. 2010. *The Climate War: True Believers, Power Brokers, and the Fight to Save the Earth*. New York: Hyperion.

Putnam, R. D. 1988. Diplomacy and Domestic Politics: The Logic of Two-Level Games. *International Organizations.* 42 (3), 427-460

Richardson, V. 2016. White House defends Obama evading Senate on Paris climate deal. *Washington Times*, 30 August. Available from: <http://washingtontimes.com/news/2016/aug/29/obama-will-bypass-senate-ratify-paris-climate-acco/> [Accessed 30 November 2016]

Rosenbaum, W.A. 2017. *Environmental Politics and Policy*. Washington, DC: CQ Press.

Rudalevige, A. 2012. The Contemporary Presidency: Executive Orders and Presidential Unilateralism. *Presidential Studies Quarterly*, 42 (1), 138-160

Rudalevige, A. 2016. Old Laws, New Meanings: Obama’s Brand of Presidential ‘Imperialism’. *Syracuse Law Journal*, 66 (1), 1-39

Saad, L. 2014. A Steady 57% in US Blame Humans for Global Warming. Gallup Organization, 18 March.

Shaw, C.M. 1998. President Clinton’s first term: Matching campaign promises with presidential performance. *Congress and the Presidency*. 25 (1), 43-65

Skocpol, T. 2013. Naming the Problem: What It Will Take To Counter Extremism and Engage Americans in the Fight against Global Warming. Report prepared for the Symposium on The Politics of America’s Fight Against Global Warming, Harvard University, 14 February.

Skocpol, T. and Williamson, V. 2012. *The Tea Party and the Remaking of Republican Conservatism.* New York: Oxford University Press.

Sussman, G. and Daynes, B.W. 2013. *US Politics and Climate Change*. Boulder, CO: Lynne Rienner Publishers.

Todd, K. 2014. White House Takes Steps on Climate Adaptation, but Path Forward is Unclear. *BioScience*, 64 (11), 970

Tulis, J. K. 1988. *The Rhetorical Presidency.* Princeton, NJ: Princeton University Press.

Upton, J. 2016. US Senate Could Block Landmark HFC Climate Treaty, Legal Experts Warn. *The Guardian*, 18 October. Available from: <http://www.the> guardian.com/environment/2016/oct/18/us-senate-could-block-landmark-HFC-climate-treaty-legal-experts-warn [Accessed 20 December 2016]

UCS. 2017. A brief history of U.S. fuel efficiency standards. Union of Concerned Scientists. [www.ucsusa.org/clean-vehicles/fuel-efficiency/fuel-economy-basics.hmtl](http://www.ucsusa.org/clean-vehicles/fuel-efficiency/fuel-economy-basics.hmtl) Accessed 11 September 2017

US Department of State (2010) US Climate Action Report. Washington DC. June.

Vig, N.J. 2013. The American Presidency and Environmental Policy. *In*: M.E. Kraft and S. Kamieniecki, eds. *The Oxford Handbook of U.S. Environmental Policy*. Oxford: Oxford University Press, 306-328

Vig, N.J. 2016. Presidential Powers and Environmental Policy. *In*: N.J. Vig and M.E. Kraft, eds. *Environmental Policy*. Washingt5on DC: CQ Press. 80-102.

Warber, R.W. 2009. “Assessing the Unilateral Presidency” in G. C. Edwards and W. G. Howells, eds. *The Oxford Handbook of the American Presidency.* New York: Oxford University Press. 477-99

Wold, C. 2012. Climate Change, Presidential Power, And Leadership: “We Can’t Wait”. *Case Western Reserve Journal of International Law*, 45:303-359

| **Table 1: Overview of Barack Obama’s Policy Proposals on Climate Change Made During 2008 Election Campaign** |
| --- |
| Cap Domestic Carbon Emissions | Promote Clean Technology | Introduce Carbon Fuel Standards | Promote Low Carbon Fuels/Renewable Fuels | Tougher Fuel Efficiency Standards | Improve Energy Efficiency | Creating “Smart Grid” | Promote Nuclear Power | International Leadership |
| 7 May 2007 | 8 October 2007 | 20 Apr 2007 | 5 May 2007 | 7 May 2007 | 7 May 2007 | 8 October 2007 | 8 October 2007 | 8 October 2007 |
| 5 July 2007 | 22 April 2008 | 7 May 2007 | 7 May 2007 | 5 July 2007 | 8 October 2007 | 8 February 2008 |  |  |
| 8 October 2007 | 4 May 2008 |  | 8 October 2008 | 8 October 2007 | 8 February 2008 | 4 August 2008 |  |  |
| 10 December 2007 |  |  | 8 February 2008 | 4 August 2008 | 6 June 2008 |  |  |  |
| 8 February 2008 |  |  | 4 May 2008 |  | 25 June 2008 |  |  |  |
| 4 May 2008 |  |  | 25 May 2008 |  | 11 July 2008 |  |  |  |
| 6 June 2008 |  |  | 16 June 2008 |  | 4 August 2008 |  |  |  |
| 25 September 2008 |  |  | 24 June 2008 |  | 28 August 2008 |  |  |  |
|  |  |  | 15 July 2008 |  | 25 September 2008 |  |  |  |
|  |  |  | 17 July 2008 |  | 7 October 2008 |  |  |  |
|  |  |  | 25 July 2008 |  | 15 October 2008 |  |  |  |
|  |  |  | 4 August 2008 |  |  |  |  |  |
|  |  |  | 15 October 2008 |  |  |  |  |  |

| **Table 2. Specific Climate Change Goals Mentioned by Barack Obama in 2008 Campaign Speeches** |
| --- |
|  |  |  |  |  |
| National Low Carbon Fuel Standards | transport fuels to contain 5% less carbon by 2015 and 16% less by 2020 (20/4/2007) | reduce carbon in fuel by 1% per year (7/5/2007) |  |  |
| Fuel Economy Standards | raise by 4% per year (7/5/2007) |  |  |  |
| Renewable Energy | 25% of all energy to come from renewable sources (8/10/2007) | 30% of federal energy to come from renewable sources by 2025 (8/2/2007) | 10% of all energy to come from renewable sources by 2012 (4/8/2008) |  |
| Energy Efficiency Targets for Buildings | new buildings to be 50% more energy efficient within several years (8/10/2007) | new buildings to be carbon neutral by 2025 (8/2/2008) | new buildings to be 50% more energy efficient within four years (4/8/2008) | federal buildings to be carbon neutral by 2030 |
| Carbon Emissions | reduce carbon emissions by 80% by 2050 (8/10/2007) |  |  |  |
| Clean Technology Venture Capital Fund | $10 billion per year for five years to be allocated to fund (8/10/2007) |  |  |  |
| Green Energy Technology | invest $150 billion over ten years (8/10/2007) |  |  |  |
| Biofuels | produce 2 billion gallons of biofuels by 2013 (11/7/2008) |  |  |  |
| Cars | 1 million 150 mpg hybrid cars to be on road within six years (4/8/2008) | $7000 tax credit to buy hybrid car (4/8/2008) | $4 billion in loans and tax credits for car industry to re-tool to produce hybrid cars (4/8/2008) |  |
| Electricity Consumption | reduce electricity consumption by 15% by 2020 (4/8/2008 |  |  |  |

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| **Table 3. President Obama’s Memoranda and Executive Orders on Climate Change** |
|  | **Date** | **Title** | **Purpose** |  |  |  |
| **Memorandum** | 26/1/09 | Memo on the Energy Independence and Security Act of 2007 | Directs the Secretary of Transport to publish a final rule on increased fuel efficiency by 30 March 2009 |   |   |   |
| **Memorandum** | 26/1/09 | Memo on the State of California Request for Waiver Under 42 USC 75431(b), the Clean Air Act | Directs the Administrator of the EPA to assess whether the decision to deny California a waiver under the Clean Air Act to regulate carbon dioxide was appropriate |   |   |   |
| **Memorandum** | 5/2/09 | Memo on Appliance Efficiency Standards | Directs the Secretary of Energy to finalise efficiency standards under the Energy Policy and Conservation Act (1975), the Energy Policy Act (2005), and the Energy Independence and Security Act (2007) |   |   |   |
| **EO 13499** | 5/2/09 | Further amendment to EO 12835, Establishment of the National Economic Council | Appoints Assistant to the President for Energy and Climate Change to NEC |   |   |   |
| **EO 13500** | 5/2/09 | Further amendment to EO 12835, Establishment of the Domestic Policy Council | Appoints Assistant to the President for Energy and Climate Change to DPC |   |   |   |
| **Memorandum** | 9/3/09 | Memo on Scientific Integrity | Assigns responsibility for ensuring scientific integrity to Director of the Office of Science and Technology Policy  |   |   |   |
| **Memorandum** | 5/5/09 | Memo on Biofuels and Rural Economic Development | Directs the Secretary of Agriculture, the Secretary of Energy and the Administrator of the EPA to: 1. Establish a Biofuels Interagency Working Group; 2. support the development of the next generation of biofuels; conduct lifecycle assessments of GHG emissions; 3. accelerate investment and production of biofuels under the Food, Conservation, and Energy Act (2008) |   |   |   |
| **EO 13508** | 12/5/09 | Chesapeake Bay Protection and Restoration | 1. Protect Chesapeake Bay from consequences of Climate Change; 2. Research |   |   |   |
| **EO 13509** | 23/5/09 | Establishing a White House Council on Automotive Communities | Appoints Assistant to the President for Energy and Climate Change to the Council. |   |   |   |
| **Memorandum** | 12/6/09 | Memo on National Policy for the Oceans, Our Coasts, and the Great Lakes | Establish Interagency Ocean Policy Task Force to develop recommendations, including improving understanding and capacity to respond to climate change |   |   |   |
| **EO 13514** | 5/10/09 | Federal Leadership in Environmental, Energy, and Economic Performance | 1. Reductions of GHG emissions a priority of federal government; 2. federal bureaucracies to set targets for reductions in GHG in absolute terms by 2020; 3. federal bureaucracies to make energy efficiencies, measure GHG emissions, and create sustainable buildings. |   |   |   |
| **EO 13547** | 19/7/09 | Stewardship of the Ocean, Our Coasts, and the Great Lakes | 1. Enhance understanding and capacity to respond to climate change; 2. Identify ways of improving resilience of coastal communties |   |   |   |
| **Memorandum** | 29/1/10 | Memo on the Blue Ribbon Commission on America’s Nuclear Future | 1. States that clean nuclear energy is crucial to combatting climate change; 2. directs the Secretary of Energy to review policies for managing nuclear waste |   |   |   |
| **Memorandum** | 21/5/10 | Memo on Improving Energy Security, American Competitiveness and Job Creation, and Environmental Protection Through a Transformation of Our Nation’s Fleet of Cars and Trucks | Directs the Secretary of Transport, Secretary of Energy, Administrator of the EPA, and Director of the NHTSA to: 1. produce fuel efficiency/GHG standards for medium and heavy trucks; 2. produce new standards for passenger cars and light trucks. |   |   |   |
| **Memorandum** | 10/6/10 | Disposing of Unneeded Federal Real Estate - Increasing Sales Proceeds, Cutting Operating Costs, and Improving Energy Efficiency | Directs the federal bureaucracy to identify and eliminate excess properties in part to save energy and cut GHG emissions |   |   |   |
| **EO 13554** | 5/10/10 | Establishing the Gulf Coast Ecosystem Restoration Task Force | 1. Enable communities to better withstand impact from storms and climate change; 2. assist in mitigating and adapting to the impact of climate change |   |   |   |
| **EO 13569** | 5/4/11 | Amendments to EO 12824, 12825, 12859, and 13532, Re-establishment Pursuant to EO 13498, and Revocation of EO 13507. | Removes post of Assistant to the President for Energy and Climate Change from NEC and DPC |   |   |   |
| **Memorandum** | 24/5/11 | Memo on Federal Fleet Performance | Directs that all vehicles leased or purchased by the federal government must be powered by alternative fuels by 21/12/15, and requires federal fleets to achieve fuel efficiency standards. |   |   |   |
| **Memorandum** | 2/12/11 | Memo on the Implementation of Energy Saving Projects and Performance-Based Contracting for Energy Savings | Directs federal bureaucracies to implement fully energy conservation measures |   |   |   |
| **Memorandum** | 21/2/12 | Memo on Driving Innovation and Creating Jobs in Rural America through Biofuels and Sustainable Product Procurement | Directs increased federal procurement of biobased and other sustainable products |   |   |   |
| **EO 13624** | 30/8/12 | Accelerating Investment in Industrial Energy Efficiency |   |   |   |   |
| **EO 13632** | 7/12/12 | Establishing the Hurricane Sandy Rebuilding Task Force | Build more resilient infrastructure |   |   |   |
| **Memorandum** | 7/6/13 | Memo on Transforming Our Nation’s Electric Grid Through Improved Siting, Permitting, and Review |   |   |   |   |
| **Memorandum** | 25/6/13 | Memo on Power Sector Carbon Pollution Standards | Directs the Administrator of the EPA under the Clean Air Act to issue final carbon dioxide emission standards for new power stations and issue standards for existing power stations  |   |   |   |
| **EO 13653** | 1/11/13 | Preparing the US for the Impact of Climate Change | Enhance climate preparedness and resilience |   |   |   |
| **Memorandum** | 5/12/13 | Memo on Federal Leadership on Energy Management | Requires federal bureaucracies to establish new goals for renewable energy and energy management, and sets a target that 20% of energy used by the federal government should come from renewable sources by 2020 |   |   |   |
| **Memorandum** | 9/1/14 | Memo on Establishing a Quadrennial Energy Review | Establishes a Quadrennial Energy Review to review resilience of energy infrastructure  |   |   |   |
| **EO 13677** | 23/9/14 | Climate-Resilient International Development | Factor climate resilience into international development projects |   |   |   |
| **EO 13689** | 21/1/15 | Enhancing Coordination of National Efforts in the Arctic | Adapt to changes in Arctic (mainly national security concerns) |   |   |   |
| **EO 13690** | 30/1/15 | Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input | Improve resilience to flooding |   |   |   |
| **EO 13693** | 19/3/15 | Planning for Federal Sustainability in the Next Decade | Maintain federal leadership in sustainability and GHG reductions |   |   |   |
| **EO 13705** | 3/9/15 | Designating the International Renewable Energy Agency as a Public International Organisation Entitled to Enjoy Certain Privileges, Exemptions, and Immunities |   |   |   |   |
| **Memorandum** | 21/3/16 | Memo on Building National Capabilities for Long-Term Drought Resilience | Requires federal bureaucracies to act to reduce the vulnerability of communities to drought |   |   |   |
| **Memorandum** | 21/6/16 | Memo on Climate Change and National Security | Requires climate change-related impacts to be fully considered in the development of national security plans |   |   |   |
| **EO 13754** | 9/12/16 | North Bering Sea Resiliance | Creates the North Bering Sea Resilience Area to co-ordinate action to protect eco-systems from climate change |   |   |   |

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| **Table 4. Final Rules Implementing President Obama’s Unilateral Directives on Climate Change** |
|  | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
| **National Highways Traffic Safety Administration** | Fuel Economy Standards for cars and light trucks (*74 FR 14196*) | 1. Tire Fuel Efficiency Consumer Information (*75 FR 15893*) 2. Light Duty Vehicle Greenhouse Gas Emission Standards and Fuel Economy Standards (*75 FR 25323*) | 1. Motor Vehicle Fuel Economy Labels (*76 FR 39477*) 2. Medium and Heavy Duty Greenhouse Gas Emission Standards and Fuel Economy Standards (*76 FR 57105)* |   |   |   |   |   |
| **Energy Department** | Energy Conservation Standards for various products (*74 FR 16040, 74 FR 34080, 74 FR 36312, 74 FR 44914*) | Energy Conservation Standards for various products (*75 FR 1121, 75 FR 10873, 75 FR 2011, 75 FR 78809*) | Energy Conservation Standards for various products (*76 FR 22453, 76 FR 37407, 76 FR 57515, 76 FR 70547, 76 FR 71835*) | Energy Conservation Standards for various products (*77 FR 28927, 77 FR 31917, 77 FR 32307, 77 FR 59712*) | Energy Conservation Standards for various products (*78 FR 23335, 78 FR 36315*) | Energy Conservation Standards for various products (*79 FR 7745, 79 FR 7845, 79 FR 17725, 79 FR 30933, 79 FR 32049, 79, FR 42670, 79 FR 74491*) | Energy Conservation Standards for various products (*80 FR 4041, 80 FR 4645, 80 FR 42613, 80 FR 43161, 80 FR 57437*) | Energy Conservation Standards for various products (*81 FR 579, 81 FR 2419, 81 FR 2319, 81 FR 4367, 81 FR 4747, 81 FR 38265, 81 FR 38337*) |
| **Federal Energy Regulatory Commission** | Smart Grid Policy (*74 FR 37098*) |   |   |   |   | Reliability Standards for Generator Relays (*79 FR 42670*) |   |   |
| **Environmental Protection Agency** | 1. Mandatory Reporting on Greenhouse Gases (*74 FR 56260*) 2. Endangerment Findings for Greenhouse Gases (*74 FR 66496*) | 1. Renewable Fuel Standards (*75 FR 14669*) 2. Pollutants Covered by Clean Air Act (*75 FR 17003*) 3. Prevention of Significant Deterioration and Greenhouse GasTailoring Rule (*75 FR 31513*) 4. Denial of Petition to Reconsider Endangerment Finding (*75 FR 49555*) 5. Mandatory Reporting of Greenhouse Gases (*75 FR 57669*) 6. Renewable Fuel Standards (*75 FR 76789*) 7. Standards for Underground Injection of Carbon Dioxide *(75 FR 77229*) | 1. Greenhouse Gas Tailoring Rule (*76 FR 43489*) 2. Underground Injection Controls for Carbon Dioxide (*76 FR 56982*) | 1. Regulation of Biomass-Based Diesel Renewable Fuels (*77 FR 59457*) 2. Light Duty Vehicle Greenhouse Gas Emissions and Fuel Economy Standards (*77 FR 62623*) | Renewable Fuel Standards (*78 FR 49793*) |   | 1. Carbon Emission Guidelines for Existing Power Stations (*FR 80 64661*) 2. Performance Standards for Greenhouse Gas Emissions for New Power Stations (*80 FR 64509*). 3. Renewable Fuel Standards for Biomass-Based Diesel (*80 FR 77419)* | Carbon Emission Standards for New Stationary Sources in the Oil and Gas Sector (*81 FR 35823*) |
| **Rural Business-Cooperative Service and Rural Utilities Service** |   |   | Financial Assistance to Bio-refineries (*76 FR 7915, 76 FR 8403*) |   | Financial Assistance to support energy efficiency (*78 FR 73355*) |   |   |   |
| **Defense Department, General Service Administration, NASA** |   |   | Federal Acquisition Regulations: Sustainable Acquisitions (*76 FR31395)* |   |   |   |   |   |
| **National Oceanic and Atmospheric Administration** |   |   |   | National Marine Sanctuary Regulations (*77 FR 25060*) |   |   |   |   |
| **Federal Transit Administration** |   |   |   |   | Emergency Relief following Hurricane Sandy (*78 FR 19136*) |   |   |   |
| **Agriculture Department and Housing and Urban Development Department** |   |   |   |   |   |   | Energy Efficiency Standards for New Houses (*80 FR 25901*) |   |

1. [↑](#endnote-ref-2)
2. [↑](#endnote-ref-3)
3. [↑](#endnote-ref-4)
4. [↑](#endnote-ref-5)