

# Learning from Experience: Retrospective Review of Regulations in 2014

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## ABSTRACT

Through a series of Executive Orders, President Obama has encouraged federal regulatory agencies to review existing regulations “that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.” Evaluating whether the intended outcomes of regulations are met *ex post* can be challenging, so multiple government guidelines instruct agencies to incorporate retrospective review plans into their proposals during the rulemaking process. To support this effort, the George Washington University Regulatory Studies Center examined significant regulations proposed in 2014 to assess whether they included plans for retrospective review, and provided recommendations for how best to do so. This paper finds that, despite these guidelines, agencies are not planning prospectively for *ex post* analysis of their rules and provides agencies with three recommendations to facilitate transparency, public accountability, and measurement of their rules’ success.

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<sup>1</sup> This comment reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center’s policy on research integrity is available at <http://regulatorystudies.columbian.gwu.edu/policy-research-integrity>.

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## Background

In 2014, the George Washington University Regulatory Studies Center launched a yearlong effort to evaluate high priority proposed rules to determine whether it was designed in a manner that would make its outcomes measurable *ex post*. As a part of this Retrospective Review Comment Project, the Regulatory Studies Center examined significant proposed regulations to assess whether agencies included a discussion of retrospective review, and submitted comments on the rulemaking record providing suggestions on how best to incorporate plans for retrospective review at the time of the rule's issuance.

While agencies commonly use prospective evaluation to estimate what the effects of their regulations will be (typically in the form of a benefit-cost analysis), they do not typically use this analysis to measure the effects of their rules after implementation, or to design their rules to aid retrospective review.

As discussed in more detail below, to facilitate meaningful retrospective review after the promulgation of a final rule, multiple government guidelines instruct agencies to incorporate retrospective review plans into their proposals during the rulemaking process. However, based on our review of the rules proposed in 2014, agencies are not designing their rules to facilitate *ex post* measurement, and are not prospectively planning for retrospective review at the outset of rulemaking.

## Retrospective Review

Retrospective review is a form of program evaluation that reviews the efficacy of a program or policy after implementation. The purpose of retrospective review is to evaluate whether a

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<sup>3</sup> This paper was originally presented as a draft title "Evaluating Retrospective Review of Regulations in 2014" at the Society for Benefit-Cost Analysis Conference, "Panel A.8: Retrospective Review of Federal Regulations," in February 2015.

<sup>4</sup> The George Washington University Regulatory Studies Center appreciates the generosity of Mr. Bartley Madden, whose gift in 2014 supported the Retrospective Review Project.

policy—in this case, a regulation—has had its intended effect, and whether it should be continued or expanded. By examining the effects of existing rules, these reviews can inform policymakers on how best to allocate scarce societal resources to accomplish broad social goals, like improved air quality or wellbeing, through regulation. Retrospective review can provide valuable feedback and learning that will improve the design of future regulations.

In a World Bank report on impact (program) evaluation, Gertler et al. illustrate the importance of applying evaluation to policies:

In a context in which policy makers and civil society are demanding results and accountability from public programs, impact evaluation can provide robust and credible evidence on performance and, crucially, on whether a particular program achieved its desired outcomes.<sup>5</sup>

This argument makes especial sense in the case of regulation. While policymakers have the opportunity to revisit on-budget programs each time federal funds are being appropriated, regulatory programs often exist in perpetuity without a statutory requirement to revisit implementation.

Regulations often receive critical analysis *before* promulgation, usually in the form of benefit-cost analysis. This prospective analysis details the anticipated results of a proposed rule, including costs, benefits, and unquantifiable effects. While agencies often provide a wealth of information on the anticipated effects of their rules, they seldom return to a rule to evaluate whether the benefits and costs they anticipated actually materialized. In his report to the Administrative Conference of the United States (ACUS), Joseph Aldy writes that federal regulatory agencies have a mixed record on *ex post* review, despite their “long track record of prospective analysis of proposed regulations that can address these questions.”<sup>6</sup>

Recently, retrospective review has found a proponent in President Barack Obama, who issued three executive orders during his first term directing agencies to conduct retrospective analysis of existing regulations.

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<sup>5</sup> Paul J. Gertler, Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch. “Impact Evaluation in Practice.” *The World Bank*. 2011. [http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1295455628620/Impact\\_Evaluation\\_in\\_Practice.pdf](http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1295455628620/Impact_Evaluation_in_Practice.pdf)

<sup>6</sup> Joseph Aldy. “Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy.” *A report for the Administrative Conference of the United States*. 2014. <https://www.acus.gov/report/retrospective-review-report>

## Executive Orders

On January 18, 2011, President Obama signed Executive Order 13563, *Improving Regulation and Regulatory Review*, which reaffirmed the regulatory principles and structures outlined in President Clinton's Executive Order 12866. In addition to the regulatory philosophy laid out in EO 12866, EO 13563 instructs agencies to

consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned. Such retrospective analyses, including supporting data, should be released online whenever possible.

EO 13563 additionally instructs executive branch agencies to develop and submit to the Office of Information and Regulatory Affairs (OIRA) retrospective review plans “under which the agency will periodically review its existing significant regulations to determine whether any such regulations should be modified, streamlined, expanded, or repealed so as to make the agency’s regulatory program more effective or less burdensome in achieving the regulatory objectives.”

On July 14, 2011, President Obama took another step toward retrospective review when he issued Executive Order 13579 encouraging independent regulatory agencies to develop and make public plans for retrospective review of their regulations.<sup>7</sup>

Following these two Executive Orders, OIRA Administrator Cass Sunstein issued guidance to the heads of executive branch agencies and independent regulatory commissions with instructions for implementation of the Executive Order’s requirements. The memorandum emphasizes the importance of “maintaining a consistent culture of retrospective review and analysis” in government.<sup>8</sup> The guidance instructs agencies to use the principles established in EO 13563 §1 – 5 to orient their thinking during the process of retrospective analysis and specifies elements their review plans should include, and timelines for sharing them with the public.

On May 10, 2012, President Obama issued Executive Order 13610, *Identifying and Reducing Regulatory Burdens*, which emphasized that “further steps should be taken, consistent with law, agency resources, and regulatory priorities, to promote public participation in retrospective

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<sup>7</sup> Executive Orders governing regulatory oversight have generally not covered “independent regulatory agencies” (such as the Federal Communications Commission, the Securities and Exchange Commission, and the Consumer Product Safety Commission).

<sup>8</sup> United States. Office of Management and Budget. Office of Information and Regulatory Affairs. *MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES: Retrospective Analysis of Existing Significant Regulations*. By Cass Sunstein. April 25, 2011.

<https://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-19.pdf>

review, to modernize our regulatory system, and to institutionalize regular assessment of significant regulations.”<sup>9</sup>

This *ex post* review makes it possible for the government and the public to measure whether a particular rule has had its intended effect. However, waiting until after a regulation is already drafted, finalized, and implemented can hamper retrospective review designs. For example, after a regulation has been in place for 10 years it may be too late to collect data crucial to evaluating its success. In his ACUS report, Aldy notes that while they are subject to rigorous *ex ante* analysis, economically significant rules “are not designed to produce the data and enable causal inference of the impacts of the regulation in practice.”<sup>10</sup>

Waiting until implementation to think about retrospective review may leave agencies without the resources and data they need to effectively review their rules. For these reasons, we argue that it is necessary to think prospectively about retrospective review and, to that end, that agencies should design their rules to better aid measurement of outputs and outcomes.

### **Incorporating Retrospective Review into NPRMs**

In his implementing memo on retrospective review, Sunstein states that “future regulations should be designed and written in ways that facilitate evaluation of their consequences and thus promote retrospective analyses and measurement of ‘actual results.’”<sup>11</sup> This emphasis is repeated in his June 14, 2011 memo, “Final Plans for Retrospective Analysis of Existing Rules.”

In its 2015 Draft Report to Congress on the Benefits and Costs of Federal Regulations, the Office of Management and Budget (OMB) states that such retrospective analysis can serve as an important corrective mechanism to the flaws of *ex ante* analyses. According to that report, the result of systematic retrospective review of regulations

should be a greatly improved understanding of the accuracy of prospective analyses, as well as corrections to rules as a result of *ex post* evaluations. A large priority is the development of methods (perhaps including not merely before-and-after accounts but also randomized trials, to the extent feasible and consistent with law) to obtain a clear sense of the effects of rules. In addition, and importantly, rules should be written and designed, in advance, so as to facilitate retrospective

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<sup>9</sup> Executive Order 13610, “Identifying and Reducing Regulatory Burdens.” May 10, 2012.

<sup>10</sup> Joseph Aldy. “Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy.” *A report for the Administrative Conference of the United States*. 2014. Page 9. <https://www.acus.gov/report/retrospective-review-report>

<sup>11</sup> United States. Office of Management and Budget. Office of Information and Regulatory Affairs. *MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES: Retrospective Analysis of Existing Significant Regulations*. By Cass Sunstein. April 25, 2011.

analysis of their effects, including consideration of the data that will be needed for future evaluation of the rules' ex post costs and benefits.<sup>12</sup>

These recommendations are bolstered by the academic literature on program evaluation. In their World Bank report, Gertler et al. conclude that the appropriate methods for conducting program evaluation, or retrospective review, should be identified “at the outset of a program, through the design of prospective impact evaluations that are built into the project’s implementation.”<sup>13</sup> This allows evaluators to better fit their evaluation methods to the program being reviewed, and to plan for review itself through the design and implementation of the program (or regulation). In his report to ACUS, Aldy also reinforces the importance of planning for retrospective review at the beginning of the rulemaking process:

Well-designed regulations should enable retrospective analysis to identify the impacts caused by the implementation of the regulation. For a given select, economically significant rule, agencies should present in the rule’s preamble a framework for reassessing the regulation at a later date. Agencies should describe the methods that they intend to employ to evaluate the efficacy of and impacts caused by the regulation, using data-driven experimental or quasi-experimental designs where appropriate.<sup>14</sup>

In line with the requirements of EO 13563, OMB’s implementation memo, the 2014 Report to Congress, and the principles of designing effective impact evaluation, it is clear that agencies should incorporate specific plans for retrospective review and *ex post* evaluation into the text of their final rules.

Despite these requirements, our review reveals that agencies are not preparing new regulations with *ex post* review in mind. Of the 22 regulations we examined in 2014, none included a plan to conduct retrospective review of the rule after implementation. However, even without an explicit plan, proposed rules may contain elements that could facilitate *ex post* analysis (discussed in the next section, *Methodology*). In comments filed on the rulemaking record we addressed the adequacy of those elements for facilitating *ex post* learning.

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<sup>12</sup> United States. Office of Management and Budget. *2015 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*. October 16, 2015.

<sup>13</sup> Paul J. Gertler, Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch. “Impact Evaluation in Practice.” *The World Bank*. 2011.  
[http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1295455628620/Impact\\_Evaluation\\_in\\_Practice.pdf](http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1295455628620/Impact_Evaluation_in_Practice.pdf)

<sup>14</sup> Joseph Aldy. “Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy.” *A report for the Administrative Conference of the United States*. 2014. Page 6. <https://www.acus.gov/report/retrospective-review-report>

## Methodology

### Selecting Rules for Review

The goal of this project was to assess how well agencies planned prospectively to review their most significant rules. Thus our sample began with *economically significant* rules, as defined by Executive Order 12866. These are regulatory actions issued by executive branch agencies that are expected to have “an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.” OMB uses this threshold to determine which rules are economically significant, as opposed to other types of significance. For example, a rule not meeting the \$100 million impact threshold is a “significant” rule if it raises novel legal or policy issues.

Our sample covers proposed regulations published in the Federal Register during calendar year 2014 for which comments were due in 2014. The sample excludes economically significant proposed rules that were supplemental notices of proposed rulemaking.

Our sample also excludes “transfer rules,” which transfer benefits or monies from one group or entity to another.<sup>15</sup> For example, the Department of Health and Human Services (HHS) proposed 14 economically significant transfer rules within the parameters of our study, but because these rules defined benefit payments and services rendered, they were excluded from this research. Another rule, in which the Department of Education (ED) proposed to amend requirements for a school grant program, also fell under the category of “transfer rules” and was not assessed in this analysis. Instead, our focus was on rules that were likely to have a significant impact on private entities.

The sample does include some notable rules that agencies classified as “significant” but not as “economically significant.” For example, EPA did not classify its proposed rule setting carbon dioxide emissions standards for new power plants as “economically significant.” We still included this rule in our review because the rule was a component of the agency’s historic Clean Power Plan to regulate carbon emissions. Four additional “other significant” rules were also selected for inclusion in this review due to high priority or interest.

### Independent Agency Rules

Relying exclusively on rules that meet the EO 12866 definition of “economically significant” would only cover executive branch agencies and would exclude independent regulatory agencies

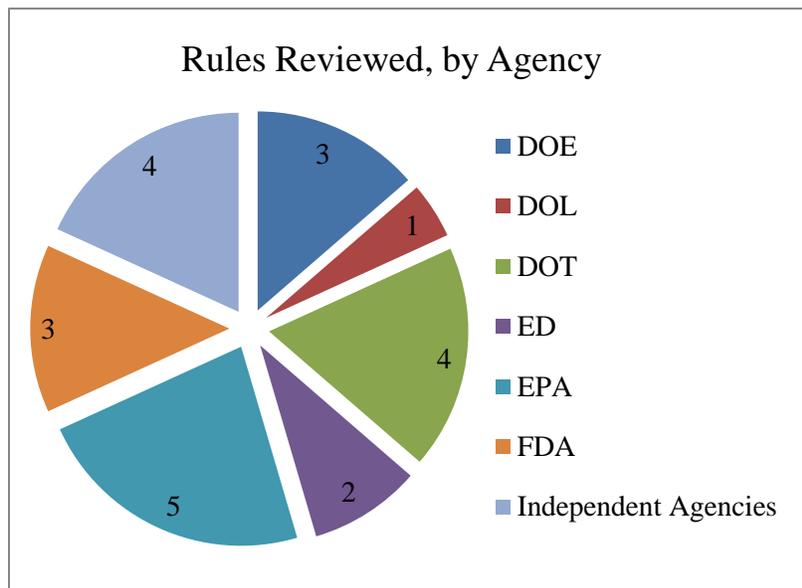
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<sup>15</sup> See discussion of transfer payments in OMB Circular A-4: United States. Office of Management and Budget. TO THE HEADS OF EXECUTIVE AGENCIES AND ESTABLISHMENTS: Regulatory Analysis. September 17, 2003. Page 38.

like the Consumer Financial Protection Bureau (CFPB), the Securities and Exchange Commission (SEC), and the National Labor Relations Bureau (NLRB). The Congressional Review Act established a roughly equivalent definition for “major” rules that encompasses independent agency rules; however, rules are only determined to be “major” after they are finalized, so this definition was not useful for identifying which *proposed* rules to examine.

Due to these limitations, we identified which independent agency rules to examine based on staff evaluation of the potential significance of the rule. Staff evaluation was based on assessment of the proposed rule text and accompanying news from media outlets and trade associations about the import of the proposal, along with weighing staff expertise on relevant issues in rulemaking. For example, our sample includes the NLRB’s proposed Representation Case Procedures rule because it was identified as a significant proposal by news outlets and received sustained coverage.

Ultimately, we examined twenty-two separate proposed rules, including four independent agency rules. Three of the independent agency rules we examined were proposed by financial regulatory agencies, and the fourth was issued by the NLRB. The chart below displays the composition of the rules we examined by promulgating agency.



Identifying information for each of the rules reviewed is listed in the Appendix to this paper.

## Findings

To evaluate whether the proposed rules were “designed and written in ways that facilitate evaluation of their consequences,” we measured each one against five criteria:

- Did the Agency clearly identify the problem that its proposed rule is intended to solve, and do the policies that the Agency proposes address this problem?
- Did the Agency provide clear, measurable metrics that reviewers can use to evaluate whether the regulation achieves its policy goals?
- Did the Agency write its proposal to allow measurement of both outputs and outcomes to enable review of whether the standards directly result in the outcomes that the agency intends?
- Did the Agency commit to collecting information to assess whether its measurable metrics are being reached?
- Did the Agency provide a clear timeframe for the accomplishment of its stated metrics and the collection of information to support its findings?

To evaluate whether the agency met each of the above standards, we reviewed the preamble of the proposed rule. In some cases, we also evaluated the proposal’s regulatory impact analysis (RIA) for further clarification, although typically our evaluation was limited to text published in the Federal Register. For each of the rules examined, we filed a public comment with the agency, providing an assessment of how well the proposed rule fared on each of the metrics, and offering recommendations for how the agency could improve its capacity for retrospective review by planning prospectively to measure the effects of its rule.

Overall, agencies fared best at identifying the problem their rule is intended to address: almost two thirds of the rules evaluated met this criteria. Most of the rules we reviewed in 2014 did not perform well on the other criteria, however. For example, just over one third of the rules included any metrics to evaluate the rules’ success, and less than one quarter of rules included any information collection to facilitate measurement. None of the rules examined included any discussion of linkages between proposed standards and intended outcomes or a potential timeframe for review. Our findings are expressed in the table below.

Percent of Rules that Met Criteria for Prospective Retrospective Review	
Problem identified	64%
Metrics	36%
Measuring linkages	0%
Information collection	23%
Timeframe	0%

The reasoning behind each of the criteria and more information on how agency rules were measured are explained in the sections below.

## Identifying the Problem

Problem identification is crucial to the formulation of any policy. Without knowledge of the problem that the agency is trying to address, the public cannot assess whether the policy or regulation at hand has had the intended effect, which is key in retrospectively evaluating regulation.

Overall the rules issued in 2014 fared best on this metric: 64% of the rules reviewed identified the problem they were attempting to solve. This is likely because problem identification was institutionalized in 1993 by President Clinton's Executive Order 12866. The first of the "Principles of Regulation" in EO 12866 makes it clear that, as a first step, agencies must be able to identify the problem that justifies government action through regulation:

Each agency shall identify the problem that it intends to address (including, where applicable, the failures of private markets or public institutions that warrant new agency action) as well as assess the significance of that problem.

Problem identification practices vary from agency to agency. For example, in proposed rules establishing energy conservation standards for appliances, the Department of Energy (DOE) consistently identifies the problem its rule is intended to address in a specific section of the rule preamble, entitled "Review Under Executive Orders 12866 and 13563."<sup>16</sup> In its proposed rules, DOE specifically outlines in that section how agencies are compelled to state the problem they seek to address, and lists the problems that DOE is attempting to solve. However, other agencies do not typically report the problem being regulated with as much consistency as DOE. For example, while the Environmental Protection Agency (EPA) does not devote an entire section to problem identification in its preamble for proposed emissions standards for wood heaters, the agency does reiterate throughout that "pollution from wood heaters is a significant national air pollution problem and human health issue."<sup>17</sup> These statements are clear enough that they indicate the agency in question has actually identified a problem for its regulation to address.

However, many agencies still fell short of this basic standard. For example, in an RIA underpinning a proposed rule for the sanitary transportation of food, the Food and Drug Administration (FDA) cited the enabling statute as the need for its rule. While the FDA is certainly compelled by statute to issue regulations for the sanitary transportation of food, the agency should be able to identify an actual problem in society that its rule is intended to address. It should be no surprise that every agency that failed to identify a problem also failed to illustrate the metrics that could be used to assess whether that problem was solved following regulation.

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<sup>16</sup> See, for example, 78 FR 64132.

<sup>17</sup> 79 FR 6329

Additional complications arise for agencies that do not provide a clear problem statement. For example, while the National Labor Relations Bureau (NLRB) repeatedly referenced the *goals* of its proposed Representation Case Procedures rule, and the problem(s) its rule is/are intended to address could ostensibly be inferred from those goals, the Bureau does not offer enough information on the current state of the issue for an observer to know whether a problem exists. As explored in the next section, there is not always a clear relationship between desired outcomes of a rule and the problem a rule is intended to address. Because of this difficulty, inferring the problem from the rule's goals would assume that the goals of the regulation were directly related to that problem (an assumption that is not always true).

### **Problems Disconnected from Standards**

As noted above, while many agencies successfully identified a problem that their regulation was intended to address, in many cases the problem identified was not related to the rules the agency proposed. For example, in many of DOE's proposed energy efficiency standards, the department identifies inadequate or asymmetric information about potential energy savings as the problem to be addressed.

However, the standards themselves do not address information provision in any way; instead, these rules ban products from the marketplace. In such cases, either DOE has identified the wrong problem, or DOE's problem is not addressed by its standards. Both cases are worrying, and impede the purposes of retrospective review by disconnecting the actual effects of a rule from its intended (or stated) purpose.

The same issue arose in the evaluation of an EPA rule establishing greenhouse gas (GHG) emission standards for new power plants. The problem that EPA identified was the threat GHG emissions pose to the American public's health and welfare when they contribute to climate change. However, EPA's analysis assumes that no additional coal-fired power plants will be built, in which case the rule poses no costs and no benefits to the public.

This assumption presents some difficulty for evaluating the success of EPA's rule, and contradicts some of the outcomes that EPA states will result from its standards. For example, if this assumption is correct, then the rule will not result in any reduction in CO<sub>2</sub> emissions from coal-fired or natural gas-fired power plants. This is problematic because the entire reason EPA proposed the rule was to address these stationary source emissions, and if market factors are already addressing these emissions satisfactorily, there is no remaining problem for this standard to address.

It is worth evaluating whether the standards that agencies propose are responsive to the problems they identify. However, this paper does not address that issue, other than to mention it as a caveat when interpreting the significance (or lack thereof) of the number of regulations in which agencies successfully identified a problem.

## Measurement Criteria

In order to measure the success of any rule following implementation, it is necessary for the agency to clearly define what constitutes a “success.” Any stated metrics of success should be linked to the problems identified, and measure the extent to which the proposed requirements actually reduce the problems identified. In none of the rules reviewed did agencies state a clear list of metrics to use for evaluating whether the rule had succeeded *ex post*. However, in many cases, potential measures or intended directional behaviors could be inferred from agency analyses and regulatory texts (e.g. decreases in litigation, decreases in emissions, etc.).

Some regulatory outcomes were more measurable than others, but in very few cases did the agency provide objective measures that could be used to evaluate the success of its rule. When agencies did list quantifiable measures, we scored the rule as providing metrics, even if the agency did not list measures for each of the criteria. Despite the leniency of this measure, only 8 of the rules evaluated (36%) were scored as including measurement criteria.

Agencies that successfully identified quantifiable goals for their regulations include DOE, and within the Department of Transportation (DOT), the National Highway Traffic Safety Administration (NHTSA) and the Pipeline and Hazardous Material Safety Administration (PHMSA). This concentration may indicate that DOT has an advantage over other agencies for the purposes of defining and measuring metrics for its rules.

As an example of a proposed rule that included quantifiable metrics, DOT projects that its rule requiring electronic logging of hours driven by truckers could prevent between 1,425 to 1,714 crashes, and save between 20 and 24 lives per year.<sup>18</sup> In addition, DOE expects its rule setting efficiency standards for commercial ice makers to save 0.286 quads of cumulative energy over the first 30 years of compliance.<sup>19</sup> These metrics indicate both the direction and the magnitude of change that the agency anticipates.

## Measure Linkages

As agencies commit to measuring the effects of their rules, they should also be aware of mediating factors that may have accomplished goals in the absence of the rule, or undermined achievement of the stated metrics. Understanding the counterfactual and determining linkages between the rule and the measured outcomes is necessary to ensure that the policy itself resulted in the desired outcomes, rather than other factors beyond the agencies’ control.

As Aldy writes in his ACUS report, “Most economically significant regulations, while subject to rigorous *ex ante* analysis, are not designed to produce the data and enable causal inference of the

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<sup>18</sup> 79 FR 17659

<sup>19</sup> 79 FR 14849

impacts of the regulation in practice.”<sup>20</sup> Designing regulations to produce this information can give us important information about whether the outcomes we are seeking are caused by the regulation in question, rather than other factors. This helps us to avoid ineffective policies and to achieve outcomes that cause increases in social welfare.<sup>21</sup>

In their World Bank report, Gertler et al. emphasized the importance of identifying causal pathways, rather than simply assuming that government programs result in outcomes:

Finally, we strongly encourage policy makers and program managers to consider impact evaluations in a logical framework that clearly sets out the causal pathways by which a program works to produce outputs and influence final outcomes, and to combine impact evaluations with monitoring and complementary evaluation approaches to gain a full picture of performance.<sup>22</sup>

However, none of the regulations examined included a mechanism to assess causal effects. This is no surprise: establishing linkages between regulations and their intended outcomes is a lofty goal. Yet, agencies’ *ex ante* regulatory impact analysis often predict that lofty health and safety outcomes will result from their standards. Given the enormous benefits—and, sometimes, enormous costs—that are on the line, agencies should prioritize establishing strong linkages between the rules they issue and the benefits that are meant to result.

While no agencies included linkages, some rules included a striking absence of linkages to such an extent that they are worth noting here as cautionary tales. EPA’s proposed rule establishing GHG emission standards for new power plants is a case in point of the agency neglecting to account for factors outside the agency’s control when assessing regulatory benefits. For example, as mentioned previously, EPA’s assumed counterfactual was that no additional coal-fired power plants would have been built in the absence of the rule, primarily due to market factors such as the falling price of natural gas and the resulting transition from coal to gas. However, if this is true, EPA can establish no linkage between its rule and its goal of reducing GHG emissions from coal fired power plants.

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<sup>20</sup> Joseph Aldy. “Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy.” *A report for the Administrative Conference of the United States*. 2014. Page 9. <https://www.acus.gov/report/retrospective-review-report>

<sup>21</sup> Susan Dudley suggests that agencies design regulations “in ways that allow variation in compliance ...to go beyond observing mere associations and gather data necessary to test hypotheses of the relationship between regulatory actions, hazards, and risk.” “Regulatory Science and Policy, A Case Study of the National Ambient Air Quality Standards.” GW Regulatory Studies Center Working Paper. September 9, 2015.

<sup>22</sup> Paul J. Gertler, Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch. “Impact Evaluation in Practice.” *The World Bank*. 2011. [http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1295455628620/Impact\\_Evaluation\\_in\\_Practice.pdf](http://siteresources.worldbank.org/EXTHDOFFICE/Resources/5485726-1295455628620/Impact_Evaluation_in_Practice.pdf)

## Information Collection

A crucial component of effective program evaluation is access to relevant data. Because we are ostensibly measuring changes in policy outcomes and social welfare, we must decide which measures to use (*Measurement Criteria*) and how to calculate changes in these measures over time (*Information Collection*). To gauge whether agencies planned adequately for information collection, we looked at agencies' plans to collect information on metrics relevant to rule outcomes or plans to use existing information to assess outcomes. For example, ED's proposed gainful employment rule required regulated parties to collect and provide information on metrics for some of the directional goals of the rule (despite the fact that the agency failed to provide objective, quantifiable measures for the purposes of the *Measurement Criteria*).<sup>23</sup>

Agencies do face certain constraints for data collection. OMB's regulations implementing the Paperwork Reduction Act (PRA) require agencies to "ensure that each collection of information ...informs and provides reasonable notice to the potential persons to whom the collection of information is addressed of ... an estimate, to the extent practicable, of the average burden of the collection (together with a request that the public direct to the agency any comments concerning the accuracy of this burden estimate and any suggestions for reducing this burden)."<sup>24</sup> Pursuant to the PRA, agencies must gain approval from OMB before collecting information from 10 or more members of the public, which is—in part—why it is so important for agencies to plan their data collection efforts in advance.

Overall, agencies did not fare well on this metric: only 23% of the rules analyzed included any reference to information collection or existing resources to measure the rule's success. Agencies in DOT consistently did a better job of collecting information on outcomes than other agencies, and independent agencies fared worst of all.

There are two factors that contributed to DOT's success. First, DOT already has several existing databases that track the outcomes it is interested in, such as vehicle collisions and airline delays. This way, even though DOT did not commit to collecting new information in its 2014 rules, the agency can utilize existing information collection resources to evaluate the success of its rules. Second, the desired outcomes of DOT regulations (e.g. improved vehicle safety) are generally easier to measure than those of other agencies, especially independent agencies.

Despite the fact that PHMSA did not request new information to enable measurement of its hazardous train rule, the agency did seek comment on "potential data and information gathering activities that could be useful in designing an evaluation and/or retrospective review of this rulemaking."<sup>25</sup> While PHMSA ultimately fell short of the information collection standard for this

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<sup>23</sup> 79 FR 16472

<sup>24</sup> 5 CFR Part 1320.8(b)(3)(iii)

<sup>25</sup> 79 FR 45063

evaluation, the agency should be commended for its forward-looking approach to information collection.

Consistent with the requirements of the PRA, agencies should make efforts at the outset of the regulatory process to collect the information needed to measure their rules' success.

## **Timeframe**

Many agencies indicate the timeframe over which the costs and benefits of their rules are expected to materialize in the preambles of their rules. Many agencies use long time horizons, such as 30-years, to tally benefits and costs. However, many of the costs and benefits of these rules will become tangible in smaller time increments, such as five years after implementation for standards with upfront capital requirements (such as appliance efficiency standards) or two years for standards intended to result in immediate, next-year outcomes (such as safety standards for fresh produce).

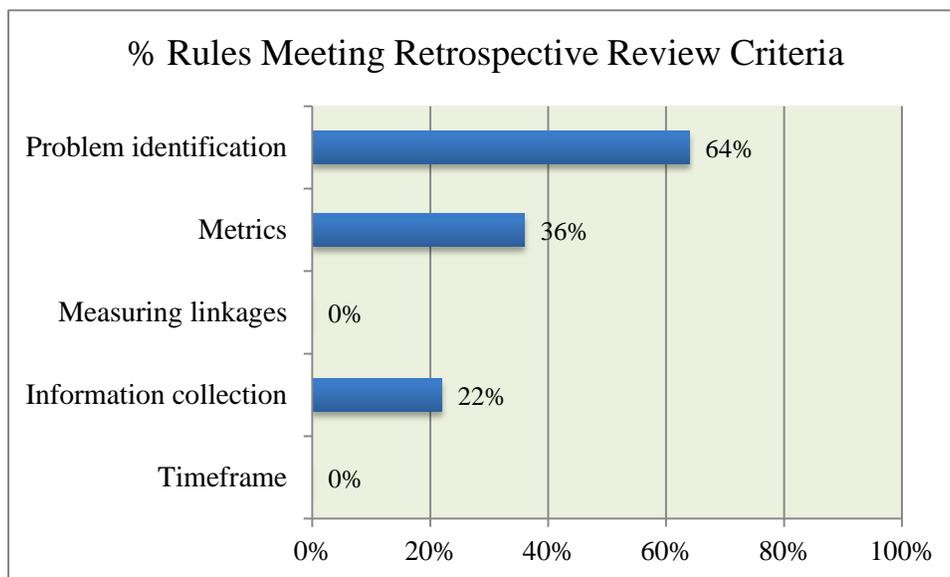
Agencies should make clear when the outcomes they value will begin to become apparent, and plan accordingly to measure those outcomes by inserting the timeframe for review in the preamble of their proposed and final rules. In our evaluation, none of the rules examined included a timeframe for retrospective review, or indicated any point in time at which the effects of their standards would become evident.

While some rules include extended timeframes to measure costs and benefits, these timeframes aren't helpful for the purposes of retrospective review. For instance, DOE estimates costs and benefits after 30 years of implementation; however, after 30 years of implementation, there are few gains to be made from revising existing standards, as capital purchases have already been made and utilized for decades. Instead, it may make sense to begin review once the market begins to respond to a new standard so that the agency can assess whether key assumptions—such as number of shipments, projected price increases/decreases, energy costs, etc.—are reacting as the agency anticipated. This will allow agencies to adjust the assumptions they use in their *ex ante* analyses to improve the impact analysis that informs regulatory decisions at the outset.

## **Overview & Recommendations**

Retrospective review is important to ensure that government programs are achieving their intended goals. By examining the effects of existing rules, these reviews can inform policymakers on how best to allocate scarce societal resources to accomplish broad social goals, through regulation. Retrospective review can also provide valuable feedback and learning that will improve the design of future regulations.

Our analysis finds that, contrary to existing government guidelines, agencies are not doing a good job of planning prospectively for retrospective review. Of the 22 rules we examined, not a single one included a plan for review. Agencies did a slightly better job of including five smaller components that could enable agencies to evaluate the effects of their rules: identifying the problem the rule seeks to address, including metrics that can be used to measure the success of the rule, linking proposed standards to desired outcomes, collecting information to measure effects, and committing to a timeframe for reviewing outcomes.



Agencies were best at identifying problems, and worst at establishing timeframes and identifying linkages between proposed standards and their outcomes. On all criteria, EPA, DOT, and DOE generally scored the best, and independent agencies (including NLRB, the Consumer Financial Protection Bureau, and the Federal Reserve Board) consistently scored the worst. While almost three quarters of executive branch rules identified a problem, only one quarter of independent agency rules did. Further, no independent agency rules met any of the other four criteria for prospectively planning for retrospective review. While the sample of independent agency rules was small, this finding—while it should be interpreted with caution—may be indicative of a broader trend for independent agency rules.<sup>26</sup>

<sup>26</sup> Arthur Fraas & Randall Lutter, “On the Economic Analysis of Regulations and Independent Regulatory Commissions.” *Administrative Law Review*, Vol. 63 pp. 213 - 241, Special Edition. 2011.

% Independent Agency Rules v. Executive Branch Rules					
	Problem Identification	Metrics	Measuring Linkages	Information Collection	Timeframe
Independent Agencies	25%	0%	0%	0%	0%
Executive Branch Agencies	72%	44%	0%	28%	0%

Based on these findings, agencies should strengthen their efforts to prospectively plan for retrospective review—especially independent agencies. In order to improve prospects for retrospective review, we recommend the following.

- Agencies should always identify quantifiable and directional goals of their rules. This information is crucial for assessing whether a rule has fallen short of, met, or exceeded its intended target. Independent agencies especially should make efforts to outline what they intend for their rules to accomplish. This transparency allows the public to know which benefits to expect in return for the opportunity costs incurred by new regulation, and what observers should strive to measure to assess the success of a rule.
- After determining the goals of their rules, agencies should proactively consider how to gather the information necessary to understand whether these goals are met. Considering information collection issues well in advance is necessary due to the requirements of the PRA. However, in many instances, it may be possible for an agency to rely on an existing information collection or agency database to aggregate the data necessary to evaluate a rule *ex post*. In these cases, agencies should assess existing data resources during the rule drafting stage and commit to evaluating relevant database information on a recurring basis.
- Given the enormous estimated benefits—and, sometimes, enormous costs—that result from federal regulation, agencies should prioritize establishing strong linkages between the rules they issue and the benefits that are meant to result. This includes a consideration of mediating factors that may have accomplished goals in the absence of the rule, or undermined achievement of the stated metrics. Understanding the counterfactual and determining linkages between the rule and the measured outcomes is necessary to understand why an outcome was not achieved or to ensure that the policy itself resulted in the desired outcomes, rather than other factors beyond the agencies’ control.

## Appendix

Rules Analyzed as Part of the Retrospective Review Comment Project <sup>27</sup>							
Agency RIN	Regulation	Review Plan	Problem(s) Identified	Metrics	Measure Linkages	Info Collection	Time-frame
NLRB 3142-AA08	Representation Case Procedures	No	No <sup>28</sup>	No	No	No	No
NHTSA 2127-AK95	Federal Motor Vehicle Safety Standards; Child Restraint Systems, Child Restraint Systems-Side Impact Protection, Incorporation by Reference	No	Yes	Yes	No	Yes <i>Relevant agency database already exists</i>	No
EPA 2060-AP93	Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters	No	Yes	Yes <sup>29</sup>	No <sup>30</sup>	No	No
EPA 2060-AQ91	Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units	No	Yes	No	No	Yes <sup>31</sup>	No

<sup>27</sup> Read the retrospective review comments filed as part of this project on the George Washington University Regulatory Studies Center’s website: <http://regulatorystudies.columbian.gwu.edu/retrospective-review-comment-project>

<sup>28</sup> The problems this regulation is meant to address are not clearly stated by the agency. They may be inferred from the goals of the regulation that the agency outlines in 79 FR 7336, but that would assume that the goals of the regulation were directly related to the problem at hand (an assumption that is not always true, as shown earlier in this paper).

<sup>29</sup> EPA receives a qualified “yes” on this metric. The agency estimates its rule will reduce particulate matter emissions by 4,825 tons and volatile organic compound emissions by 3,237 tons (79 FR 6348, *Table 7—Estimated Annual Average (2014-2022) Air Quality Impacts*). However, as further explained in footnote 30, EPA does not have any accompanying estimate for human health impacts as a result, so the actual health effects in which EPA is interested are not measureable.

<sup>30</sup> EPA’s standard is intended to reduce particulate matter (PM) emissions from wood stoves to improve human health by reducing premature mortality. However, EPA does not have any projection for the decreases in mortality it anticipates as a result of these (quantifiable) emissions reductions. Instead, EPA’s estimates are based on a national benefit-per-ton of PM reduced, which uses a benefits transfer method that in turn relies on estimated willingness-to-pay for statistical reductions in premature mortality. EPA does not establish the link between its emission reductions and the health effects it intends to result from its rule.

<sup>31</sup> EPA has an existing *Greenhouse Gas Reporting Program* (GHGRP) that tracks emissions from facilities and direct emitters of greenhouse gases, including CO<sub>2</sub>. In addition, EPA’s annual report, *Inventory of U.S.*

## Rules Analyzed as Part of the Retrospective Review Comment Project<sup>27</sup>

Agency RIN	Regulation	Review Plan	Problem(s) Identified	Metrics	Measure Linkages	Info Collection	Time-frame
<b>DOT</b> 2126-AB20	Electronic Logging Devices and Hours of Service Supporting Documents	No	Yes	Yes <sup>32</sup>	No	No	No
<b>DOE</b> 1904-AC39	Energy Conservation Program: Energy Conservation Standards for Automatic Commercial Ice Makers	No	Yes	Yes <sup>33</sup>	No	No	No
<b>ED</b> 1840-AD15	Program Integrity: Gainful Employment	No	Yes	No <sup>34</sup>	No	Yes <sup>35</sup>	No
<b>FDIC, CFPB, et al.</b> 2590-AA61	Minimum Requirements for Appraisal Management Companies	No	No	No	No	No	No
<b>FDA</b> 0910-AG98	Sanitary Transportation of Human and Animal Food	No	No <sup>36</sup>	No <sup>37</sup>	No	No	No

*Greenhouse Gas Emissions and Sinks*, provides estimates of “the total national greenhouse gas emissions and removals associated with human activities across the United States.”

<http://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Main-Text.pdf>

While EPA does not commit to measuring success using these available sources of information, the agency could make use of these resources to retrospectively review the success of its rules.

<sup>32</sup> DOT projects that its rule could prevent between 1,425 to 1,714 crashes, and save between 20 and 24 lives per year (79 FR 17659)

<sup>33</sup> DOE expects its rule to save 0.286 quads of cumulative energy over the first 30 years of compliance (79 FR 14849).

<sup>34</sup> ED lists directional goals of its rule, but does not provide quantification to measure progress toward these goals (79 FR 16607).

<sup>35</sup> Although ED does not provide objective, quantifiable measures, it does institute paperwork collection for some of the directional goals the agency states (79 FR 16472).

<sup>36</sup> In its PRIA, FDA states the statutory authority as the need for the rule rather than stating a problem: <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/EconomicAnalyses/UCM416399.pdf>

<sup>37</sup> In its PRIA, FDA states: “We lack sufficient data to quantify the potential benefits of the proposed rule. The causal chain from inadequate food transportation to human and animal health and welfare can be specified but not quantified. Because no complete data exist to precisely quantify the likelihood of food becoming adulterated during its transport, we are unable to estimate the effectiveness of the requirements of the proposed rule to reduce potential adverse health effects in humans or animals.”

## Rules Analyzed as Part of the Retrospective Review Comment Project<sup>27</sup>

Agency RIN	Regulation	Review Plan	Problem(s) Identified	Metrics	Measure Linkages	Info Collection	Time-frame
<b>DOE</b> 1904-AC43	Energy Conservation Program: Energy Conservation Standards for General Service Fluorescent Lamps and Incandescent Reflector Lamps	No	Yes	Yes <sup>38</sup>	No	No	No
<b>Fed Board</b> 7100-AE 18	Concentration Limits on Large Financial Companies	No	No	No	No	No	No
<b>FDA</b> 0910-AG38	Deeming Tobacco Products to be Subject to the Federal Food, Drug, and Cosmetic Act, as Amended by the Family Smoking Prevention and Tobacco Control Act; Regulations on the Sale and Distribution of Tobacco Products and Required Warning Statements for Tobacco Products	No	Yes <sup>39</sup>	No	No	No	No
<b>EPA</b> 2070-AJ22	Agricultural Worker Protection Standard Revisions: Pesticides	No	Yes	No <sup>40</sup>	No	No	No
<b>ED</b> 1840-AD16	Violence Against Women Act	No	No <sup>41</sup>	No	No	No	No

<sup>38</sup> DOE expects its standards for GSFLs to save 3.5 quads of cumulative energy over the first 30 years of compliance (79 FR 24071).

<sup>39</sup> FDA Preliminary Regulatory Impact Analysis, *Deeming Tobacco Products to be Subject to the Food, Drug, and Cosmetic Act, as Amended by the Family Smoking Prevention and Tobacco Control Act; Regulations Restricting the Sale and Distribution of Tobacco Products and Required Warning Statements for Tobacco Product Packages and Advertisements*, April 2014, page 9: “Deeming all tobacco products, except accessories of a proposed deemed tobacco product, to be subject to chapter IX of the FD&C Act would enable FDA to tackle more fully the problem of youth initiation of tobacco product use.”

<http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/EconomicAnalyses/UCM394933.pdf>

<sup>40</sup> EPA uses a breakeven analysis to estimate how many pesticide-related chronic illnesses would need to be avoided to justify the costs of the rule. Because this is the case, there is no estimate of how many chronic illnesses the rule will actually prevent, and thus to metric to assess whether the rule accomplishes its goal (which may not be to create net benefits).

<sup>41</sup> ED identifies the need for the rule as statutory authority rather than a problem to be solved: “In this case, there is indeed a compelling public need for regulation. The Department’s goal in regulating is to incorporate the provisions in VAWA into the Department’s Clery Act regulations.” (79 FR 35448)

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Agency RIN	Regulation	Review Plan	Problem(s) Identified	Metrics	Measure Linkages	Info Collection	Time-frame
<b>FDA</b> 0910-AF22	Food Labeling: Revision of the Nutrition and Supplement Facts Labels	No	Yes	No	No	No	No
<b>DOL</b> 1235-AA10	Establishing a Minimum Wage for Contractors	No	No	No <sup>42</sup>	No	No	No
<b>DOT</b> 2105-AE11/ 2105-AE31	Transparency of Airline Ancillary Fees and Other Consumer Protection Issues	No	No	No	No	Yes <i>Relevant agency database already exists</i>	No
<b>PHMSA</b> 2137-AE91	Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains	No	Yes	Yes	No	No <sup>43</sup>	No
<b>CFPB</b> 3170-AA10	Home Mortgage Disclosure (Regulation C)	No	Yes	No	No	No	No
<b>EPA</b> 2040-AF30	Definition of “Waters of the United States” Under the Clean Water Act	No	No	No	No	No	No

<sup>42</sup> DOL states only directional goals, such as increased productivity and reduced turnover, and does not provide quantification. 79 FR 34596

<sup>43</sup> While PHMSA does not include specific information collections to evaluate the rule, the agency does seek comments from the public on “potential data and information gathering activities that could be useful in designing an evaluation and/or retrospective review of this rulemaking.” (79 FR 45063)

## Rules Analyzed as Part of the Retrospective Review Comment Project<sup>27</sup>

Agency RIN	Regulation	Review Plan	Problem(s) Identified	Metrics	Measure Linkages	Info Collection	Time-frame
<b>EPA</b> 2060-AR33	Carbon Pollution Emission Guidelines for Existing Stationary Sources – Electric Utility Generating Units	No	Yes <sup>44</sup>	Yes <sup>45</sup>	No	Yes <sup>46</sup> <i>Relevant agency database/reports already exist</i>	No
<b>DOE</b> 1904-AC95	Energy Conservation Program: Energy Conservation Standards for Small, Large, and Very Large Air-Cooled Commercial Package Air Conditioning and Heating Equipment	No	Yes	Yes	No	No	No

<sup>44</sup> EPA relies on the public health impacts from the 2009 endangerment finding to justify new regulatory action. (79 FR 34841)

<sup>45</sup> In the text of its RIA, EPA provides state-by-state estimates of the carbon emissions reductions it anticipates its rule to have. EPA also proposes estimates for reductions in co-benefits SO<sub>2</sub> and NO<sub>2</sub> in the text of its proposed rule. EPA Preliminary Regulatory Impact Analysis, *Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants* (Table ES-1. Proposed State Goals (Adjusted MWh-Weighted-Average Pounds of CO<sub>2</sub> per Net MWh from all Affected Fossil Fuel-Fired EGUs) for Options 1 and 2). EPA-452/R-14-002, June 2014. <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf>

<sup>46</sup> As noted in footnote 31, EPA has an existing Greenhouse Gas Reporting Program (GHGRP) that tracks emissions from facilities and direct emitters of greenhouse gases, including CO<sub>2</sub>. In addition, EPA’s annual report, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, provides estimates of “the total national greenhouse gas emissions and removals associated with human activities across the United States.” <http://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Main-Text.pdf>

While EPA does not commit to measuring success using these available sources of information, the agency could make use of these resources to retrospectively review the success of its rules.