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ENVIRONMENTAL PROTECTION

Status of GAO Recommendations to EPA

Statement of Alfredo Gómez, Director,
Natural Resources and Environment

GAO Highlights

Highlights of GAO-16-722T, a testimony before the Subcommittee on Superfund, Waste Management, and Regulatory Oversight, Committee on Environment and Public Works, U.S. Senate

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Why GAO Did This Study

EPA's mission is to protect human health and the environment. To accomplish this mission, EPA develops and enforces environmental regulations; awards grants; and studies environmental issues, among other things. GAO has conducted reviews focused on various aspects of EPA's programs and operations. Through this work, GAO has made numerous recommendations to improve EPA's performance and the efficiency and effectiveness of its programs and operations.

GAO continuously engages with executive branch agencies to ensure its recommendations are implemented. For example, GAO regularly follows up with agencies on its recommendations and posts their status online. Also, in 2015, GAO sent letters to the heads of key executive branch agencies, including EPA, identifying unimplemented recommendations that warrant priority attention.

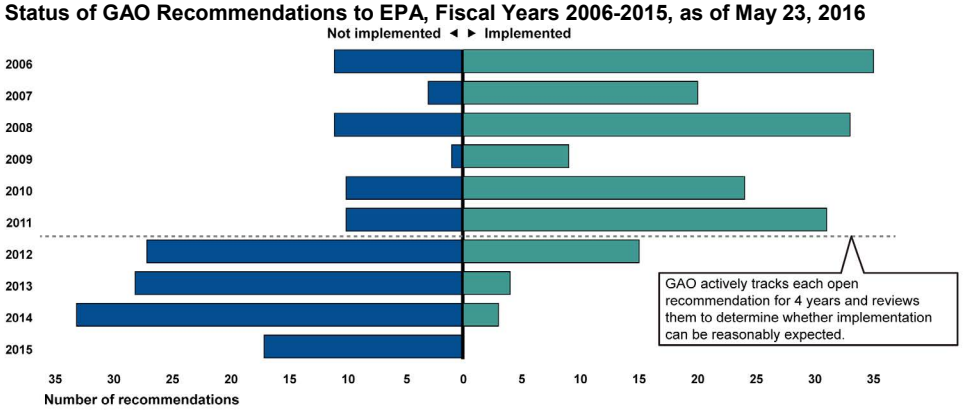
This statement discusses (1) the status of EPA's implementation of GAO recommendations for fiscal years 2006 through 2015 and how these recommendations relate to EPA programs and operations and (2) benefits realized by EPA based on GAO's work, including through implementing GAO's recommendations. It is based on GAO's prior work from October 2005 through September 2015 and an analysis of recommendations GAO made to EPA during this period from data maintained in an internal database used to track the status of GAO recommendations.

View GAO-16-722T. For more information, contact Alfredo Gómez at (202) 512-3841or gomezj@gao.gov.

What GAO Found

As of May 23, 2016, the U.S. Environmental Protection Agency (EPA) had implemented 174 of the 325 recommendations GAO made in fiscal years 2006 through 2015. EPA had not yet implemented the remaining 151 recommendations. The figure below shows the status of the 325 recommendations, which fall into six broad categories that relate to EPA programs and operations. These are: (1) management and operations; (2) water issues; (3) environmental contamination and cleanup; (4) toxics, chemical safety, and pesticides; (5) air quality, climate change, and energy efficiency; and (6) public health and environmental justice. Almost three-fourths of the recommendations fall into the first three categories and include actions to better manage grants, improve regulation of drinking water contaminants, and better manage hazardous waste cleanup. Most of the recommendations not yet implemented concern EPA management and operations and water issues. For example, regarding management and operations, EPA has not yet implemented GAO's recommendation to improve procedures for processing congressional committee requests for scientific advice. Similarly, for water issues, EPA has not fully implemented GAO's recommendations related to providing oversight guidance and working with states on water quality protection measures.

Status of GAO Recommendations to EPA, Fiscal Years 2006-2015, as of May 23, 2016



Source: GAO. | GAO-16-722T

GAO has identified many benefits— programmatic and process improvements and financial benefits—based on EPA taking actions on these recommendations and related work. For example, in 2010, GAO found that EPA had not maintained attention to children's health issues through agency strategies and priorities since 2000. GAO recommended that EPA's strategic plan expressly articulate children-specific goals, objectives, and targets. EPA agreed, and on September 30, 2010, EPA submitted its fiscal year 2011-2015 strategic plan to Congress, which included children's health and environmental justice as a cross-cutting strategy, and children-specific goals. In addition, GAO has identified financial benefits from implementation of its recommendations and related work. For example, in 2008, GAO identified an error in EPA's calculation of reimbursable indirect costs for hazardous waste cleanup. EPA acknowledged the error and published revised indirect costs rates. As a result, GAO estimated in 2010 that EPA had recovered or would recover $42.2 million.

Chairman Rounds, Ranking Member Markey, and Members of the Subcommittee:

Thank you for the opportunity to testify on the status of recommendations GAO has made to the U.S. Environmental Protection Agency (EPA). As you know, the mission of EPA is to protect human health and the environment, with the purpose of protecting all Americans from significant risks to human health and the environment where they live, learn, and work, among other things. To accomplish this mission, EPA develops and enforces environmental regulations; awards grants to state environmental programs, non-profits, educational institutions, and others; studies environmental issues; and sponsors partnerships, among other things. We have conducted reviews focused on various aspects of EPA's programs and operations. For example, we have conducted reviews on EPA programs to manage toxic chemicals, improve water infrastructure, and clean up hazardous waste sites. We have also conducted reviews focused on aspects of EPA's operations, such as workforce planning, processes for developing and enforcing regulations, and mechanisms for securing information. Through these reviews, we have made numerous recommendations to improve EPA's performance and the efficiency and effectiveness of its programs and operations. Today I will discuss (1) the status of EPA's implementation of our recommendations from fiscal year 2006 through fiscal year 2015 and how these recommendations relate to EPA programs and operations and (2) benefits realized by EPA based on our work, including through implementation of our recommendations.

This statement is based on our reports issued from October 2005 through September 2015.[1] To determine the number and status of recommendations we made to EPA from October 1, 2005, through September 30, 2015, we analyzed data from our internal database that maintains information on the status of recommendations we have made to all agencies. To determine how these recommendations relate to EPA programs and operations, we developed categories based on areas of EPA's work and its organizational structure. Two analysts then independently categorized each of the recommendations and resolved any differences. To identify benefits realized by EPA in implementing our recommendations, we also relied on our internal database for information

[1]App. 1 lists the products upon which this statement is based.

on financial and non-financial benefits. To assess the reliability of the recommendations and benefits data, we reviewed documentation about the database used to produce the data and interviewed our staff members responsible for maintaining and updating the database. We found the data to be sufficiently reliable for the purposes of this testimony.[2] Detailed information about the scope and methodology used to conduct our prior work can be found in each of our issued reports.

The work on which this statement is based was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Many of our reports and testimonies include recommendations that, if acted upon, may result in tangible benefits for the U.S. taxpayer by improving the federal government's efficiency, effectiveness, and accountability. Implemented recommendations can result in financial or nonfinancial benefits for the federal government.[3] An estimated financial benefit is based on actions taken in response to our recommendations, such as reducing government expenditures, increasing revenues, or reallocating funds to other areas. For example, in fiscal year 2015, our work across the federal government resulted in $74.4 billion in financial benefits. Other benefits that result from our work cannot be measured in dollar terms, and we refer to them as nonfinancial or other benefits. These benefits are linked to specific recommendations or other work that we completed over several years and could include improvements to agency programs, processes, and policies. During fiscal year 2015, we recorded a total of 1,286 other benefits government-wide that resulted

[2]EPA officials also reviewed the data.

[3]For the purpose of this testimony, we consider financial benefits to be net benefits—that is, estimates of financial benefits that have been reduced by the costs associated with taking the action that we recommended.

from our work, including improved services to the public and government business operations.[4]

As part of our responsibilities under generally accepted government auditing standards, we continuously follow up on recommendations we have made and report their status to Congress. Agencies also have a responsibility to monitor and maintain accurate records on the status of our recommendations.[5] After issuing a report, we follow up with audited agencies at least once a year to determine the extent to which our recommendations have been implemented and the benefits that have been realized.[6] During this follow-up, we identify what additional actions, if any, would be needed to address our recommendations. A recommendation is considered implemented when actions have been taken that, consistent with our recommendation, address the issue or deficiency we identified and upon which the recommendation is based. Experience has shown that it takes time for some recommendations to be implemented. For this reason, we actively track unaddressed (i.e., open) recommendations for 4 years and review them to determine whether implementation can be reasonably expected. The review includes consideration of alternative strategies the agency may have for

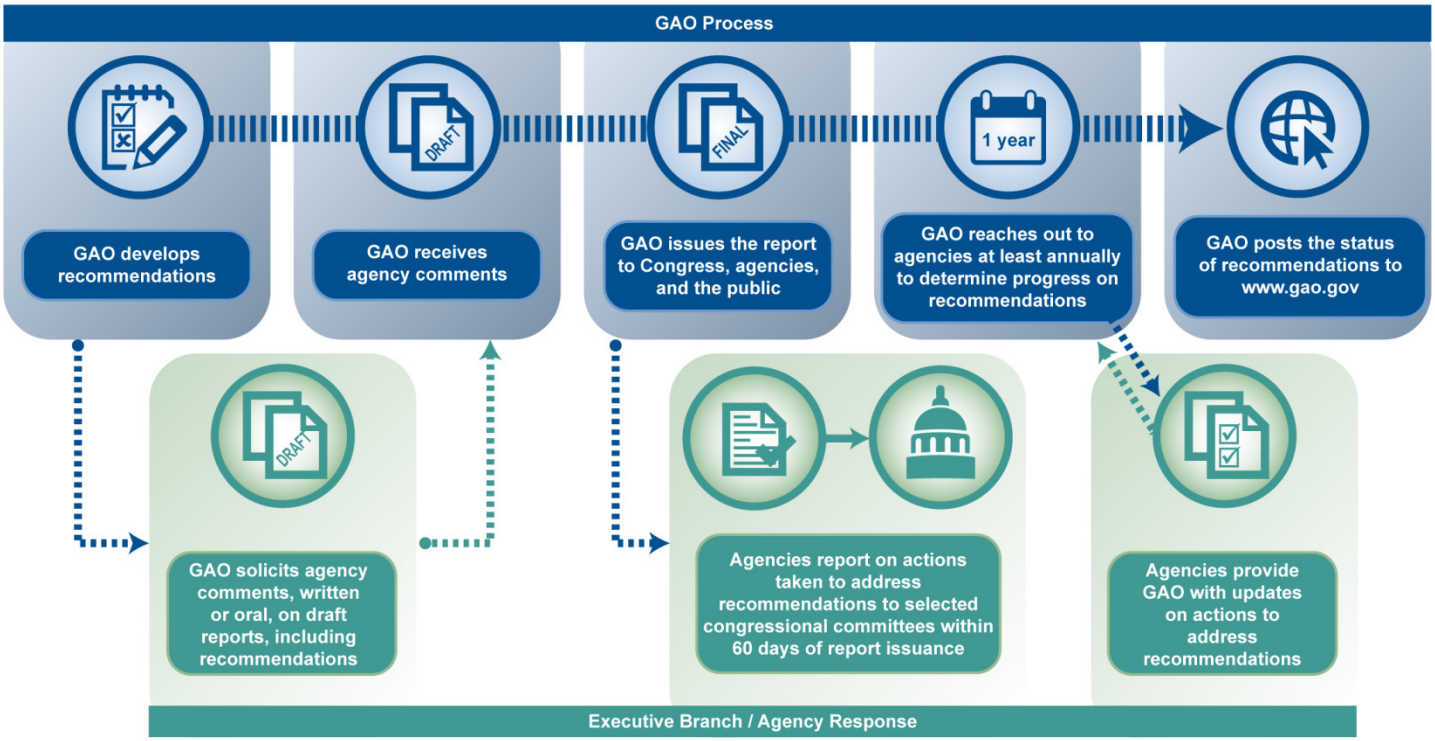
[4]GAO, *Performance and Accountability Report Fiscal Year 2015,* GAO-16-3SP (Washington, D.C.: Nov. 16, 2015).

[5]These responsibilities are detailed in both the Office of Management and Budget (OMB) Circulars A-50 and A-123. For example, OMB Circular A-50 provides the policies and procedures for use by executive agencies when considering reports issued by GAO and inspectors general, other executive branch audit organizations, and nonfederal auditors where follow-up is necessary. OMB Circular A-123 addresses internal management control systems and requires that agencies track GAO recommendations and provide a response to Congress on actions taken on the recommendations. Specifically, among the requirements of Circular A-123 are that the agency (1) appoint a top-level audit follow-up official, (2) maintain accurate records on the status of recommendations, and (3) assign a high priority to following up on audit recommendations. In addition, when we issue a report containing recommendations to an agency, the agency head is required to submit a written statement of the actions taken in response to the recommendations to the Committee on Homeland Security and Governmental Affairs of the Senate and Committee on Oversight and Government Reform of the House of Representatives not later than 60 days after the date of the report. 31 U.S.C. § 720(b) (providing further that the statement shall be submitted to the Committees of Appropriations of both Houses of Congress in the first request for appropriations submitted more than 60 days after the date of the report).

[6]We work with agencies to establish processes for recommendation follow-up. We recently worked with EPA to revise our process to increase the frequency of follow-up from annually to semiannually.

implementing the recommendations. We will close the recommendation as not implemented if an agency has indicated that it was not planning to take action or we determined that it was unlikely that the agency would take action to address the recommendation. Figure 1 shows our process for monitoring and reporting on recommendations.

Figure 1: GAO's Process for Monitoring and Reporting on Recommendations



Source: GAO analysis. | GAO-16-722T

We maintain a publicly available database with information on the current status of most open recommendations.[7] The database allows searches by agency, congressional committee, or key words and is available at http://www.gao.gov/openrecs.html.

[7]Because of the sensitive or classified nature of certain recommendations, we are unable to include them in our publicly accessible database.

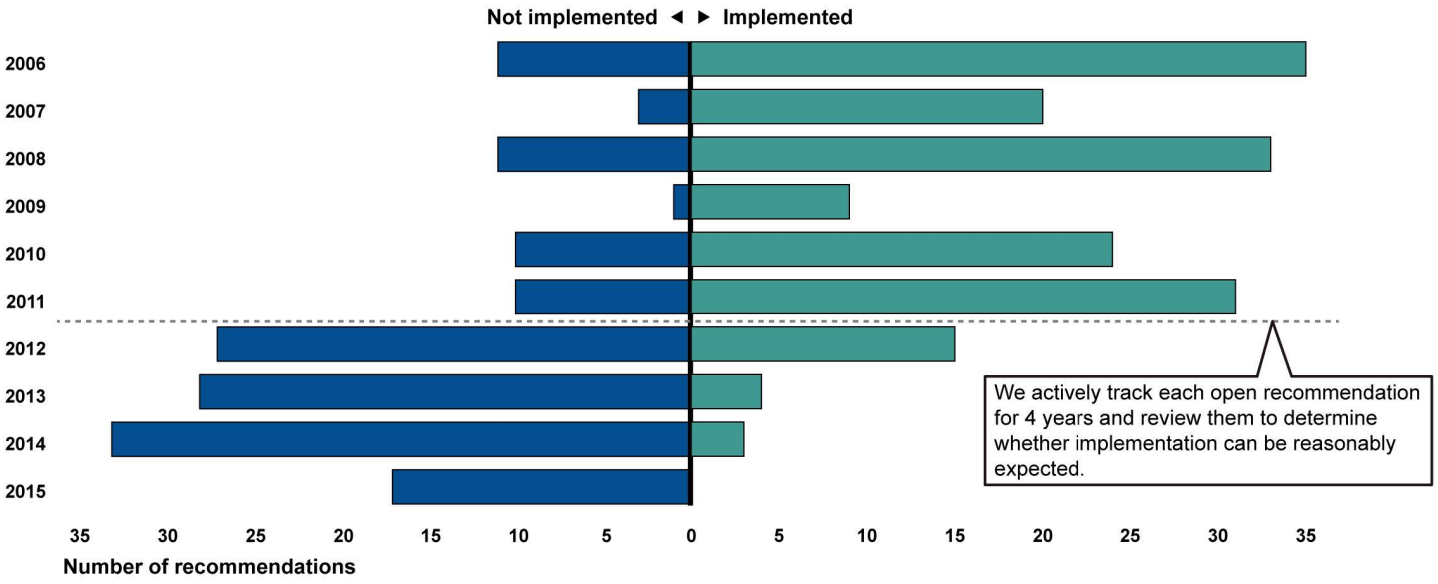
In addition to our process for monitoring and reporting on recommendations, we use other mechanisms to encourage agencies to implement our recommendations in a timely manner. For example, in 2015, we undertook an effort to call attention to unimplemented recommendations that we believe warrant priority attention by the Secretary or agency heads at key departments and agencies. We sent letters to the heads of key executive branch agencies, including EPA, identifying these high priority recommendations and urging the agency head to continue to provide attention to these issues.

EPA Has Implemented 174 of 325 GAO Recommendations, Which Relate to a Variety of EPA Programs and Operations

As of May 23, 2016, EPA had implemented 174 of the 325 recommendations we made in fiscal year 2006 through fiscal year 2015, and the recommendations fall into six broad categories that relate to EPA programs and operations. EPA had not yet implemented the remaining 151 recommendations.[8] Figure 2 shows the status of the 325 recommendations. For recommendations that we made over 4 years ago (i.e., fiscal years 2006 to 2011), EPA had implemented 77 percent. For recommendations made more recently within the last 4 years (i.e., fiscal years 2012 to 2015), EPA had implemented 17 percent.

[8]GAO continually works with EPA to verify implementation of recommendations and close them out in our database, so the number of implemented recommendations can change on a daily basis. Also, some of these recommendations were addressed to other agencies in addition to EPA. Finally, the numbers of recommendations reported here do not include any recommendations to EPA that were sensitive or classified in nature.

Figure 2: Status of GAO Recommendations to EPA, Fiscal Years 2006 through 2015, as of May 23, 2016



Source: GAO. | GAO-16-722T

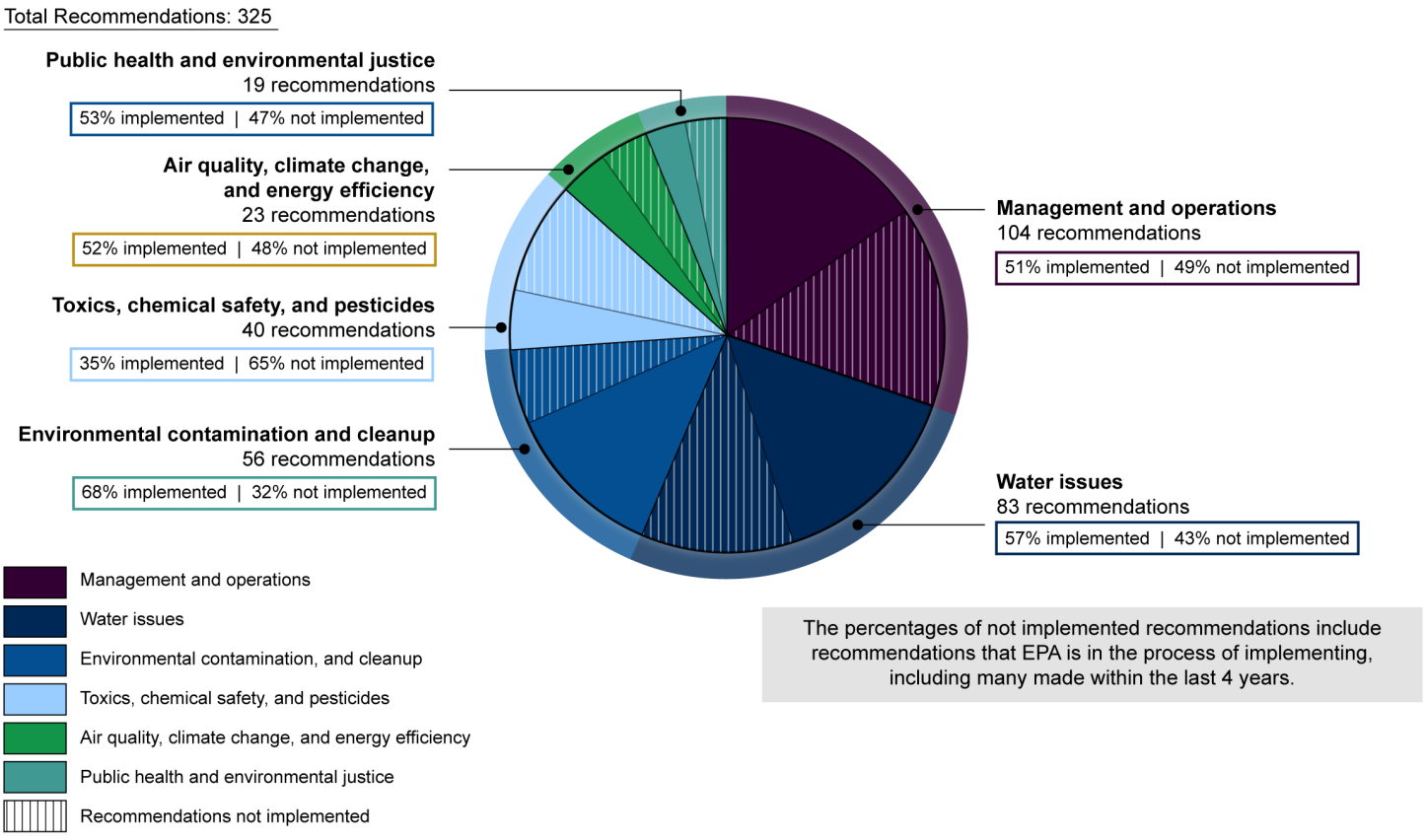
The 325 recommendations we made to EPA in fiscal years 2006 through 2015 fall into six broad categories that relate to EPA programs and operations and generally align with many of the goals and strategies identified in EPA's Strategic Plan.[9] These six broad categories are: (1) management and operations; (2) water issues, which include water infrastructure, drinking water, water quality, and ecosystem restoration; (3) environmental contamination and cleanup, which includes environmental cleanup, pollution prevention, hazardous and other waste programs, and emergency management; (4) toxics, chemical safety, and pesticides; (5) air quality, climate change, and energy efficiency; and (6) public health and environmental justice. The percentage of recommendations implemented within each category ranged from 68 percent for the environmental contamination and cleanup category to 35 percent in the toxics, chemical safety, and pesticides category.[10] Figure 3

[9]EPA, *Fiscal Year 2014-2018 EPA Strategic Plan* (Washington, D.C.: Apr. 10, 2014).

[10]The percentages of implemented and not implemented recommendations include recommendations that EPA is in the process of implementing, including many made within the last 4 years.

shows the number of recommendations we identified in each of these categories and the percentage of recommendations within each category that has been implemented and not implemented.

Figure 3: Categories of GAO Recommendations to EPA and Percent Implemented and Not Implemented, Fiscal Years 2006 through 2015, as of May 23, 2016



Source: GAO. | GAO-16-722T

Note: The percentages of implemented and not implemented recommendations include recommendations that EPA is in the process of implementing, including many made within the last 4 years.

Almost three-fourths of our recommendations from fiscal years 2006 through 2015 fall into three categories: management and operations, water issues, and environmental contamination and cleanup. The recommendations to EPA relating to management and operations included actions for better managing its grants, better coordinating management of its laboratories, and improving the agency's information security. Recommendations on water issues included actions targeted at

improving the regulation of contaminants in drinking water, improving water quality and ecosystem health in regions such as the Great Lakes and Chesapeake Bay, and better managing water pollution from both point and nonpoint sources.[11] Recommendations related to environmental contamination and cleanup included actions for better managing cleanup at hazardous waste sites; enhancing responses to disasters, such as the World Trade Center collapse on September 11, 2001, and Hurricane Katrina in August 2005; and promoting proper disposal and recycling of electronic waste. The remaining quarter of the recommendations fell into the other three categories of toxics, chemical safety, and pesticides; air quality, climate change, and energy efficiency; and public health and environmental justice. Appendix I lists our reports from fiscal years 2006 through 2015 with recommendations to EPA, by category; the number of recommendations made to EPA in each of these reports; and the number of recommendations in each report that were implemented and not implemented as of May 23, 2016.

Of the 151 recommendations that EPA has not implemented, we made 105, or 70 percent, of these recommendations within the past 4 years (i.e., fiscal years 2012 to 2015) and 46, or 30 percent, earlier (i.e., fiscal years 2006 to 2011).[12] Most of the recommendations not yet implemented concern EPA management and operations and water issues. Some examples of more recent open recommendations in these categories include the following:

- **Management and operations:** In June 2015, we made four recommendations to EPA to help better ensure compliance with the Environmental Research, Development, and Demonstration Authorization Act of 1978, as amended, which requires that EPA's Science Advisory Board (SAB) provide both the EPA Administrator and designated congressional committees with scientific advice as

[11]A point source discharges pollutants from a discrete point, such as a pipe carrying effluent from a wastewater treatment plant or an industrial facility. Nonpoint source pollution is water pollution from diffuse sources, such as runoff from farms or construction sites.

[12]In general, we continue to believe that our prior recommendations are valid and should be addressed. While we recognize that agencies need time to act on our recommendations, in our experience, recommendations that have not been implemented after 4 years are generally not implemented in subsequent years.

requested.[13] Specifically, we recommended that EPA take steps to improve its procedures for processing congressional committee requests to the SAB for advice by (1) clarifying which EPA offices should receive and process congressional requests, (2) documenting procedures for reviewing congressional committee requests, (3) clarifying in policy documents when it is and is not appropriate for the EPA Administrator to forward advice to the requesting committee, and (4) specifying in policy documents how the SAB should respond to a congressional committee's request for scientific advice unrelated to an existing EPA charge question. In written comments on the report, EPA concurred with these recommendations and provided information on planned actions to address each recommendation. In an update provided by EPA in March 2016, an EPA official said that the agency is developing a written process to address these recommendations. The recommendations remain open pending finalization of the written process by the agency and our review to determine whether it meets the intent of our recommendations.

- **Management and operations:** In our 2014 report on EPA's Regulatory Impact Analyses (RIA), which are analyses of the benefits and costs of proposed regulations, we recommended, among other things, that EPA enhance the agency's review process for RIAs to ensure the transparency and clarity of information presented for selected elements such as clear descriptions of baselines and alternatives considered in and across RIAs.[14] In its written comments on our report, EPA generally agreed with all of our recommendations in the report, also noting then, and in a March 2016 update, that EPA stands behind the quality of its RIAs but will continue to strive to enhance transparency and clarity in the RIAs. This recommendation remains open pending evidence that EPA has taken action to enhance its review process as recommended. In addition, we also recommended that EPA identify and prioritize for research key categories of benefits and costs that the agency cannot currently monetize that, once monetized, would most enhance the agency's

[13]GAO, *EPA's Science Advisory Board: Improved Procedures Needed to Process Congressional Requests for Scientific Advice*, GAO-15-500 (Washington, D.C.: June 4, 2015).

[14]GAO, *Environmental Regulation: EPA Should Improve Adherence to Guidance for Selected Elements of Regulatory Impact Analyses*, GAO-14-519 (Washington, D.C.: July 18, 2014).

ability to consider economic trade-offs associated with different regulatory alternatives. In its comments on the report, EPA acknowledged the importance of making continual improvements in valuing the benefits and costs of its regulatory actions. Since our report, EPA has worked on several critical areas to advance economic valuation including a long-term effort to examine the factors affecting the estimated costs of regulations and convening a scientific panel on modeling economywide impacts, among other things. While EPA has made progress toward implementing this recommendation, it remains open pending the incorporation of these efforts into its RIAs.

- **Water issues:** In May 2012, we reported on a key EPA program under section 319 of the Clean Water Act to address water pollution from nonpoint sources.[15] Under this program, EPA provides grants to states to implement programs and fund projects that address nonpoint source pollution. We found that EPA regional offices had varied widely in the extent of their oversight and the amount of influence they had exerted over state nonpoint source pollution management programs. In addition, EPA's primary measures of effectiveness of state management programs may not always demonstrate the achievement of program goals, which are to eliminate remaining water quality programs and prevent new threats from creating future water quality problems in water bodies currently of high quality. To help protect water quality, we recommended that EPA: (1) provide guidance to its regional offices on overseeing state programs and, (2) in its revised reporting guidelines to states, emphasize measures that more accurately reflect the overall health of targeted water bodies and demonstrate states' focus on protecting high-quality water bodies, where appropriate.[16] EPA agreed with these recommendations in its comments on the report. In 2013, EPA issued final guidelines laying out expectations for EPA regional oversight and issued a memorandum to its regional managers highlighting their oversight responsibilities. In addition, according to EPA, the agency is working with states on new measures for protecting unimpaired waters, among other things. Although EPA has taken action, these recommendations remain open pending our review of the guidelines' implementation and

[15]GAO, *Nonpoint Source Water Pollution: Greater Oversight and Additional Data Needed for Key EPA Water Program,* GAO-12-335 (Washington, D.C.: May 31, 2012).

[16]We included these recommendations in our 2015 letter to EPA highlighting recommendations warranting priority attention.

completion of EPA's efforts to work with states on water quality protection measures.

- **Water issues:** In May 2011, we reported on EPA's implementation of requirements under 1996 amendments to the Safe Drinking Water Act to determine whether regulation of additional contaminants, not already regulated, is warranted.[17] Among other things, we found that EPA issued health advisories for several contaminants it determined did not warrant regulation. These health advisories are provided to inform states, localities, and public water systems that action may be required on their part to protect public health from exposure to contaminants in public drinking water, and establish concentrations of contaminants at which adverse health effects are not anticipated to occur over specific durations of exposure.[18] However, several factors could hamper efforts by states and localities to use the health advisories in a timely and effective manner to protect public health. These factors include the lack of actual comprehensive data on the occurrence of these contaminants in public water systems, widespread state and local government budget constraints, and, in some cases, limitations in states' ability to require systems to conduct testing. We recommended that EPA: (1) determine whether the use of health advisories provide sufficient information on unregulated contaminants to support timely and effective actions by states, localities, public water systems, and the public to ensure the safety of public drinking water, and if not, (2) develop a plan to more effectively communicate such information to these entities. In its comments on the report, EPA agreed with our recommendation, stating that it would determine whether and how to revise the advisories to better serve states, localities, public water systems, and the public. In a June 2016 update, EPA officials identified actions the agency plans to take during fiscal years 2016 and 2017 in response to the recommendation, including documenting a process for updating health advisories and issuing concise updated health advisories. This recommendation remains open pending implementation of these

[17]GAO, *Safe Drinking Water Act: EPA Should Improve Implementation of Requirements on Whether to Regulate Additional Contaminants,* GAO-11-254 (Washington, D.C.: May 27, 2011).

[18]Drinking water health advisories are not legally enforceable standards, and according to EPA, are subject to change as new information becomes available.

actions and our review and determination that actions taken have met the intent of the recommendation.

EPA's Implementation of GAO Recommendations and Related Work Has Resulted in Programmatic and Process Improvements and Financial Benefits

We have identified many benefits—programmatic and process improvements and financial benefits—based on EPA taking actions on our recommendations and related work. From fiscal years 2006 through 2015, we have identified improvements to EPA's programs and operations in categories such as public health and environmental justice; water issues; and toxics, chemical safety, and pesticides. In addition, we have identified financial benefits resulting from the implementation of our recommendations and our related work.[19] The following are examples of programmatic and process improvements and financial benefits we have identified based on actions EPA took in response to our recommendations.

Programmatic Improvements

- **Water issues:** Under the Clean Water Act, EPA currently regulates 58 industrial categories of wastewater pollution, such as petroleum refining, fertilizer manufacturing, and coal mining, with technology-based regulations called effluent guidelines. Such guidelines are applied in permits to limit the pollutants that facilities may discharge. The Clean Water Act also calls for EPA to revise the guidelines when appropriate. EPA has done so, for example, to reflect advances in treatment technology or changes in industries. EPA uses a two-phase process to identify industrial categories needing new or revised effluent guidelines, including an initial "screening" phase in which EPA ranks industrial categories according to the total toxicity of their

[19]Our findings and recommendations can produce measurable financial benefits for the federal government after the Congress or agencies act on them and government expenditures are reduced or funds are reallocated to other areas. To calculate our financial benefits we rely on estimates from non-GAO sources. These sources are typically the agency that acted on our work, a congressional committee, or the Congressional Budget Office.

wastewater.[20] In September 2012, we concluded that limitations in EPA's screening phase may have led the agency to overlook some industrial categories that warrant further review for new or revised effluent guidelines.[21] For example, during its screening phase, EPA had not considered the availability of advanced treatment technologies for most industrial categories. We recommended that EPA modify the screening phase of its review process to include thorough consideration of information on the treatment technologies available to industrial categories as it considered revisions to its screening and review process. In its comments on the report, EPA agreed that factoring treatment technology information into its reviews would be valuable. In September 2014, EPA published a combined Final 2012 and Preliminary 2014 Effluent Guidelines Program report that discussed revisions to its screening process in response to our report. Specifically, EPA stated that it recognized the need to consider the availability of treatment technologies, process, changes, or pollution-prevention practices in the screening phase of its process and said that it is targeting new data sources to provide such information. In July 2015, EPA published its "Final 2014 Effluent Guidelines Program" with a diagram showing the change to EPA's screening process to include screening of treatment technologies.

- **Public health and environmental justice:** In January 2010, we found that EPA had not maintained attention to children's health through agency strategies and priorities. In 1996, EPA had created a national agenda on children's health, and its 1997 and 2000 strategic plans highlighted children's health as a key cross-agency program. However, the agency had not updated the agenda since 1996, and the focus on children was absent from the agency's 2003, 2006, and

[20]EPA's 2002 draft Strategy for National Clean Water Industrial Regulations was the foundation for EPA's process. In the first, or "screening," phase, EPA uses data from two EPA databases to rank industrial categories according to the total toxicity of their wastewater. Using this ranking, public comments, and other considerations, EPA has identified relatively few industrial categories posing the highest hazard for the next, or "further review," phase. In this further review phase, EPA evaluates the categories to identify those that are appropriate for new or revised guidelines because treatment technologies are available to reduce pollutant discharges.

[21]GAO, *Water Pollution: EPA Has Improved Its Review of Effluent Guidelines but Could Benefit from More Information on Treatment Technologies,* GAO-12-845 (Washington, D.C.: Sept. 10, 2012).

2009 draft strategic plans.[22] We recommended, among other things, that EPA's strategic plan, which was under development at the time, expressly articulate children-specific goals, objectives, and targets. EPA agreed to implement our recommendation. On September 30, 2010, EPA submitted its fiscal year 2011-2015 strategic plan to Congress, which included children's health and environmental justice as a cross-cutting strategy.[23] The strategic plan contains children-specific goals including reducing the concentration of particular chemicals, such as those in certain pesticides, in children by 2014. EPA's annual action plans support the strategic plan goals. The action plans also contain children-specific goals, such as advancing the use of Integrated Pest Management (IPM) in settings where children are present, with the long-term goal that every school in America be managed under a verifiable IPM program.[24]

Process Improvements

- **Toxics, chemical safety, and pesticides:** EPA's Integrated Risk Information System (IRIS) contains EPA's scientific position on the potential human health effects of exposure to more than 540 chemicals. In 2008, we examined EPA's efforts to address a backlog of 70 ongoing IRIS assessments, that, as of December 2007, most of which had been in progress for more than 5 years, and found that EPA's productivity problems stemmed from several key factors, including required reviews of IRIS assessments by the Office of Management and Budget (OMB) and other agencies; EPA's management decision in some cases to suspend ongoing assessments while waiting for additional scientific studies to be completed; and the compounding effects of delays—even one delay can have a domino effect, requiring the process to essentially be

[22]GAO, *Environmental Health: High-level Strategy and Leadership Needed to Continue Progress toward Protecting Children from Environmental Threats,* GAO-10-205 (Washington, D.C.: Jan. 28, 2010).

[23]In its fiscal year 2014-2018 strategic plan, EPA identified children's environmental health as an ongoing priority area.

[24]IPM focuses on long-term prevention of pests or their damage through a combination of techniques, such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties (e.g., planting pest-resistant crop varieties), paired with monitoring to reduce unnecessary pesticide applications.

repeated to incorporate changing science.[25] We recommended, among other things, that EPA establish a policy that: (1) endorsed conducting IRIS assessments on the basis of peer-reviewed scientific studies available at the time of the assessment, and (2) developed criteria that only allows assessments to be suspended, to await the completion of scientific studies, under exceptional circumstances.[26] In commenting on our report, EPA agreed to consider our recommendations in revising the IRIS development process.[27] In addition to other changes made since our 2008 report, EPA announced "stopping rules" in July 2013 that outlined (1) a cut-off point for accepting new studies for individual IRIS assessments and raising scientific issues related to the assessment, and (2) criteria under which the agency will suspend assessments to await new studies. EPA stated that these changes are intended to increase the number of IRIS assessments completed each year and provide more accurate assessment development timelines to the public.

- **Water issues:** Rural and small communities could require $190 billion over the coming decades for water and wastewater infrastructure, according to federal agencies. In our body of work on water and wastewater infrastructure, we have concluded that improved coordination and funding could enhance federal efforts to help meet

[25]GAO, *Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System,* GAO-08-440 (Washington, D.C.: Mar. 7, 2008).

[26]This recommendation remains open pending implementation of EPA's "stopping rules" and our review and determination that actions taken by EPA have met the intent of the recommendation. We included this recommendation in our 2015 letter to EPA highlighting recommendations warranting priority attention.

[27]We added EPA's processes for assessing and controlling toxic chemicals as a high-risk area in our 2009 biennial status report on governmentwide risk areas requiring increased attention by executive agencies and Congress. The high-risk designation stemmed from our conclusion that EPA has insufficient chemical assessment data from the IRIS program, as well as under the Toxic Substances Control Act, to determine whether it should establish controls to limit public exposure to many chemicals that may pose substantial health risks.

communities' needs.[28] Specifically, in October 2012, we concluded that given the reliance of rural communities on federal grants and loans to meet their water and wastewater infrastructure needs, it was important to make the most of limited federal funds to help as many communities as possible and to eliminate the potential duplication of effort by communities when they apply for funds.[29] To improve coordination and reduce the potential for inefficiencies and duplication of effort, we recommended, among other things, that EPA and the Department of Agriculture ensure the timely completion of an interagency effort to develop guidelines to assist states in developing their own uniform preliminary engineering reports—a step in the application process for assistance programs—to meet federal and state requirements for assistance.[30] Although EPA neither agreed nor disagreed with the recommendation, EPA and the Department of Agriculture issued guidance in January 2013 that made it easier for rural communities to apply for funding and are working with states to adopt the guidelines.

Financial Benefits

- **Environmental contamination and cleanup:** During the course of work related to a July 2008 report on the funding and reported costs of Superfund enforcement and administrative activities,[31] we reviewed EPA's methodology for calculating the indirect costs—or administrative costs for managing the Superfund program—that EPA charged responsible parties for in fiscal year 2006. In conducting this work, we identified two spending codes for which associated

[28]GAO, *Rural Water Infrastructure: Federal Agencies Provide Funding but Could Increase Coordination to Help Communities* , GAO-15-450T (Washington, D.C.: Feb. 27, 2015; reissued on Nov. 6, 2015); GAO, *Rural Water Infrastructure: Additional Coordination Can Help Avoid Potentially Duplicative Application Requirements,* GAO-13-111 (Washington, D.C.: Oct. 16, 2012); GAO, *Rural Water Infrastructure: Improved Coordination and Funding Processes Could Enhance Federal Efforts to Meet Needs in the U.S.-Mexico Border Region,* GAO-10-126 (Washington, D.C.: Dec. 18, 2009); GAO, *Water Resources: Four Federal Agencies Provide Funding for Rural Water Supply and Wastewater Projects,* GAO-07-1094 (Washington, D.C.: Sept. 7, 2007).

[29]GAO-13-111.

[30]Preliminary engineering reports describe the proposed project, including its purpose, features of the proposed location, condition of any existing facilities, alternative approaches considered, design features, and costs.

[31]GAO, *Superfund: Funding and Reported Costs of Enforcement and Administrative Activities,* GAO-08-841R (Washington, D.C.: July 18, 2008).

administrative costs had not been carried over into EPA's calculations of the indirect cost rate applicable to each region for fiscal year 2006.[32] As a result of this error, the percentage that EPA was charging responsible parties for indirect costs associated with fiscal year 2006 spending was lower than it should have been. To correct the error, EPA published revised indirect cost rates for fiscal years 2005 and 2006 in May 2008. EPA acknowledged that correcting this error would result in more money being potentially recoverable from responsible parties. In 2010, we estimated that the additional amount EPA had recovered (or would recover) had a present worth value of about $42.2 million.[33]

- **Management and operations:** Beginning in fiscal year 2000, we have issued a body of work aimed at raising the level of attention given to improper payments across government.[34] Through our work, we found that improper payments were a long-standing, widespread, and significant problem in the federal government and contributed to Congress passing the Improper Payments Information Act of 2002 (IPIA). This act, as amended, requires that all agencies annually identify and review programs and activities that may be susceptible to significant improper payments, provisions that coincide with recommendations we made that agencies estimate, reduce, and publicly report improper payments.[35] Subsequently, in 2005, EPA began reporting on the improper payment rate for the Clean Water

[32]We identified this error and EPA corrected it during the course of our work. Therefore, we did not report on it in GAO-08-841R.

[33]Precise data were not available on the exact amount of the additional fiscal year 2005 and 2006 indirect costs that EPA had recovered (or would recover) as a result of correcting the error we identified.

[34]GAO, *Improper Payments: Progress Made but Challenges Remain in Estimating and Reducing Improper Payments,* GAO-09-628T (Washington, D.C.: Apr. 22, 2009); GAO *Improper Payments: Status of Agencies' Efforts to Address Improper Payment and Recovery Auditing Requirements,* GAO-08-438T (Washington, D.C.: Jan. 31, 2008); GAO, *Improper Payments: Agencies' Fiscal Year 2005 Reporting under the Improper Payments Information Act Remains Incomplete,* GAO-07-92 (Washington, D.C.: Nov. 14, 2006); GAO, *Financial Management: Coordinated Approach Needed to Address the Government's Improper Payments Problems,* GAO-02-749 (Washington, D.C.: Aug. 9, 2002); GAO, *Financial Management: Increased Attention Needed to Prevent Billions in Improper Payments,* GAO/AIMD-00-10 (Oct. 29, 1999).

[35]See, for example, GAO-02-749.

and Drinking Water State Revolving Funds.[36] By 2009, the most recent year for which we identified financial benefits from the agency addressing improper payments, EPA reported that its total improper payment error rates for the State Revolving Funds declined by 0.16 percent since the first reporting. This resulted in about a $4.5 million decrease in improper payments in Clean Water and Drinking Water State Revolving Funds program payments for fiscal years 2008 and 2009.[37]

In conclusion, as the fiscal pressures facing the government continue, so too does the need for executive branch agencies to improve the efficiency and effectiveness of government programs and activities. Our recommendations provide a significant opportunity to improve the government's fiscal position, better serve the public, and make government programs more efficient and effective. EPA's implementation of our outstanding recommendations will help the agency continue to improve its performance and the efficiency and effectiveness of its operations. We will continue to work with Congress to monitor and draw attention to these important issues.

Chairman Rounds, Ranking Member Markey, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to answer questions that you may have at this time.

[36]The federal government provides some financial support to communities for their drinking water and wastewater infrastructure projects. The largest sources of federal funding are EPA's Clean Water State Revolving Fund (SRF) program, created under the Water Quality Act of 1987, which provides funds to repair and replace wastewater infrastructure, and EPA's Drinking Water SRF program, created under the Safe Drinking Water Act Amendments of 1996, which provides funds to upgrade and replace drinking water infrastructure.

[37]We confirmed with EPA officials that there were no offsetting implementation costs associated with this program. Data used to calculate these benefits were derived from EPA's reported independent estimates of improper payments.

GAO Contacts and Staff Acknowledgements

If you or your staff members have any future questions about this testimony, please contact Alfredo Gómez, Director; at (202) 512-3841 or gomezj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Key contributors to this testimony include Barb Patterson, Assistant Director; Megan Darnley; Cindy Gilbert; Anne Hobson; Richard Johnson; Celia R. Mendive; Marie Suding; Sara Sullivan; and Kiki Theodoropoulos.

Appendix I: GAO Reports from Fiscal Years 2006 through 2015 with Recommendations to EPA, by Category

Table 1: GAO Reports Containing Recommendations to EPA, by Category, and Status of Recommendations as of May 23, 2016

	Number of recommendations, fiscal years 2006 through 2015		
Category and report	**Implemented**	**Not implemented**	**Total**
Management and Operations	**53**	**51**	**104**
GAO-06-95	1	—	1
Indian Tribes: EPA Should Reduce the Review Time for Tribal Requests to Manage Environmental Programs			
GAO-06-625	7	—	7
Grants Management: EPA Has Made Progress in Grant Reforms but Needs to Address Weaknesses in Implementation and Accountability			
GAO-06-831	1	—	1
Enterprise Architecture: Leadership Remains Key to Establishing and Leveraging Architectures for Organizational Transformation			
GAO-07-883	3	1	4
Environmental Protection: EPA-State Enforcement Partnership Has Improved, but EPA's Oversight Needs Further Enhancement			
GAO-08-265	3	1	4
Health and Safety Information: EPA and OSHA Could Improve Their Processes for Preparing Communication Products			
GAO-08-304	4	—	4
Environmental Protection: EPA Needs to Ensure That Best Practices and Procedures Are Followed When Making Further Changes to Its Library Network			
GAO-08-742	1	1	2
Federal Records: National Archives and Selected Agencies Need to Strengthen E-Mail Management			
GAO-08-925	—	1	1
Information Technology: Agencies Need to Establish Comprehensive Policies to Address Changes to Projects' Cost, Schedule, and Performance Goals			
GAO-08-1111R	6	—	6
Environmental Enforcement: EPA Needs to Improve the Accuracy and Transparency of Measures Used to Report on Program Effectiveness			
GAO-09-205	1	—	1
Federal Rulemaking: Improvements Needed to Monitoring and Evaluation of Rules Development as Well as to the Transparency of OMB Regulatory Reviews			
GAO-09-446	1	—	1
Biofuels: Potential Effects and Challenges of Required Increases in Production and Use			
GAO-10-202	2	—	2
Information Security: Agencies Need to Implement Federal Desktop Core Configuration Requirements			

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Management and Operations (cont.)			
GAO-10-413 Workforce Planning: Interior, EPA, and the Forest Service Should Strengthen Linkages to Their Strategic Plans and Improve Evaluation	—	2	2
GAO-10-947 Environmental Protection Agency: EPA Needs to Complete a Strategy for Its Library Network to Meet Users' Needs	3	3	6
GAO-11-347 Environmental Protection Agency: To Better Fulfill Its Mission, EPA Needs a More Coordinated Approach to Managing Its Laboratories	6	1	7
GAO-11-548R Mentor-Protege Programs Have Policies That Aim to Benefit Participants but Do Not Require Postagreement Tracking	—	1	1
GAO-11-565 Data Center Consolidation: Agencies Need to Complete Inventories and Plans to Achieve Expected Savings	2	—	2
GAO-11-605 Social Media: Federal Agencies Need Policies and Procedures for Managing and Protecting Information They Access and Disseminate	2	—	2
GAO-12-629 Information Technology Cost Estimation: Agencies Need to Address Significant Weaknesses in Policies and Practices	—	2	2
GAO-12-635 EPA Regulations and Electricity: Better Monitoring by Agencies Could Strengthen Efforts to Address Potential Challenges	—	1	1
GAO-12-692 Human Capital: HHS and EPA Can Improve Practices Under Special Hiring Authorities	1	—	1
GAO-12-696 Information Security: Environmental Protection Agency Needs to Resolve Weaknesses	8	4	12
GAO-12-791 Organizational Transformation: Enterprise Architecture Value Needs to Be Measured and Reported	—	2	2
GAO-13-115 Environmental Protection: EPA Should Develop a Strategic Plan for Its New Compliance Initiative	—	2	2

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Management and Operations (cont.)			
GAO-14-65 Information Technology: Additional OMB and Agency Actions Are Needed to Achieve Portfolio Savings	—	3	3
GAO-14-249 Petroleum Refining: Industry's Outlook Depends on Market Changes and Key Environmental Regulations	—	2	2
GAO-14-413 Federal Software Licenses: Better Management Needed to Achieve Significant Savings Government-Wide	—	6	6
GAO-14-519 Environmental Regulation: EPA Should Improve Adherence to Guidance for Selected Elements of Regulatory Impact Analyses	—	4	4
GAO-14-612 Information Security: Agencies Need to Improve Oversight of Contractor Controls	—	2	2
GAO-14-713 Data Center Consolidation: Reporting Can Be Improved to Reflect Substantial Planned Savings	1	—	1
GAO-15-431 Telecommunications: Agencies Need Better Controls to Achieve Significant Savings on Mobile Devices and Services	—	3	3
GAO-15-500 EPA's Science Advisory Board: Improved Procedures Needed to Process Congressional Requests for Scientific Advice	—	4	4
GAO-15-617 Information Technology Reform: Billions of Dollars in Savings Have Been Realized, but Agencies Need to Complete Reinvestment Plans	—	1	1
GAO-15-618 Grants Management: EPA Has Opportunities to Improve Planning and Compliance Monitoring	—	4	4
Water Issues	**47**	**36**	**83**
GAO-06-96 Chesapeake Bay Program: Improved Strategies Are Needed to Better Assess, Report, and Manage Restoration Progress	3	3	6
GAO-06-148 Drinking Water: EPA Should Strengthen Ongoing Efforts to Ensure That Consumers Are Protected from Lead Contamination	10	1	11

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Water Issues (cont.)			
GAO-06-390 Securing Wastewater Facilities: Utilities Have Made Important Upgrades but Further Improvements to Key System Components May Be Limited by Costs and Other Constraints	1	—	1
GAO-06-639 Clean Water: Better Information and Targeted Prevention Efforts Could Enhance Spill Management in the St. Clair-Detroit River Corridor	4	—	4
GAO-07-479 Clean Water: Further Implementation and Better Cost Data Needed to Determine Impact of EPA's Storm Water Program on Communities	1	—	1
GAO-07-591 Great Lakes: EPA and States Have Made Progress in Implementing the BEACH Act, but Additional Actions Could Improve Public Health Protection	2	1	3
GAO-10-549 Nanotechnology: Nanomaterials Are Widely Used in Commerce, but EPA Faces Challenges in Regulating Risk	1	—	1
GAO-10-604 Recovery Act: States' and Localities' Uses of Funds and Actions Needed to Address Implementation Challenges and Bolster Accountability	1	—	1
GAO-11-254 Safe Drinking Water Act: EPA Should Improve Implementation of Requirements on Whether to Regulate Additional Contaminants	13	4	17
GAO-11-346 Environmental Health: Action Needed to Sustain Agencies' Collaboration on Pharmaceuticals in Drinking Water	1	—	1
GAO-11-381 Drinking Water: Unreliable State Data Limit EPA's Ability to Target Enforcement Priorities and Communicate Water Systems' Performance	1	3	4
GAO-11-802 Chesapeake Bay: Restoration Effort Needs Common Federal and State Goals and Assessment Approach	3	1	4
GAO-12-335 Nonpoint Source Water Pollution: Greater Oversight and Additional Data Needed for Key EPA Water Program	—	2	2
GAO-12-845 Water Pollution: EPA Has Improved Its Review of Effluent Guidelines but Could Benefit from More Information on Treatment Technologies	3	—	3

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Water Issues (cont.)			
GAO-13-39 Water Quality: EPA Faces Challenges in Addressing Damage Caused by Airborne Pollutants	—	1	1
GAO-13-111 Rural Water Infrastructure: Additional Coordination Can Help Avoid Potentially Duplicative Application Requirements	2	1	3
GAO-13-797 Great Lakes Restoration Initiative: Further Actions Would Result in More Useful Assessments and Help Address Factors That Limit Progress	1	6	7
GAO-14-80 Clean Water Act: Changes Needed If Key EPA Program Is to Help Fulfill the Nation's Water Quality Goals	—	4	4
GAO-14-103 Drinking Water: EPA Has Improved Its Unregulated Contaminant Monitoring Program, but Additional Action Is Needed	—	3	3
GAO-14-555 Drinking Water: EPA Program to Protect Underground Sources from Injection of Fluids Associated With Oil and Gas Production Needs Improvement	—	4	4
GAO-15-567 State Revolving Funds: Improved Financial Indicators Could Strengthen EPA Oversight	—	2	2
Environmental Contamination and Cleanup	**38**	**18**	**56**
GAO-06-45 Environmental Protection: More Complete Data and Continued Emphasis on Leak Prevention Could Improve EPA's Underground Storage Tank Program	—	1	1
GAO-06-47 Electronic Waste: Strengthening the Role of the Federal Government in Encouraging Recycling and Reuse	2	1	3
GAO-06-99 Hazardous Waste: EPA Needs to Clarify the Types of Mercury Waste That Can Be Treated and Disposed of Using the Debris Regulations	2	—	2
GAO-07-37 Recycling: Additional Efforts Could Increase Municipal Recycling	1	—	1
GAO-07-152 Leaking Underground Storage Tanks: EPA Should Take Steps to Better Ensure the Effective Use of Public Funding for Cleanups	4	—	4
GAO-07-651 Hurricane Katrina: EPA's Current and Future Environmental Protection Efforts Could Be Enhanced by Addressing Issues and Challenges Faced on the Gulf Coast	5	1	6

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Environmental Contamination and Cleanup (cont.)			
GAO-07-763 Aboveground Oil Storage Tanks: Observations on EPA's Economic Analyses of Amendments to the Spill Prevention, Control, and Countermeasure Rule	1	—	1
GAO-07-1091 World Trade Center: EPA's Most Recent Test and Clean Program Raises Concerns That Need to Be Addressed to Better Prepare for Indoor Contamination Following Disasters	3	—	3
GAO-08-71 Hazardous Materials: EPA May Need to Reassess Sites Receiving Asbestos-Contaminated Ore from Libby, Montana, and Should Improve Its Public Notification Process	3	—	3
GAO-08-482 Aboveground Oil Storage Tanks: More Complete Facility Data Could Improve Implementation of EPA's Spill Prevention Program	—	3	3
GAO-08-944 Concentrated Animal Feeding Operations: EPA Needs More Information and a Clearly Defined Strategy to Protect Air and Water Quality from Pollutants of Concern	—	1	1
GAO-08-1044 Electronic Waste: EPA Needs to Better Control Harmful U.S. Exports through Stronger Enforcement and More Comprehensive Regulation	4	—	4
GAO-09-278 Superfund: Greater EPA Enforcement and Reporting Are Needed to Enhance Cleanup at DOD Sites	1	—	1
GAO-09-656 Superfund: Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements	2	—	2
GAO-10-348 Superfund: Interagency Agreements and Improved Project Management Needed to Achieve Cleanup Progress at Key Defense Installations	2	1	3
GAO-10-380 Superfund: EPA's Estimated Costs to Remediate Existing Sites Exceed Current Funding Levels, and More Sites Are Expected to Be Added to the National Priorities List	1	—	1
GAO-10-626 Electronic Waste: Considerations for Promoting Environmentally Sound Reuse and Recycling	1	1	2
GAO-11-513 Biofuels: Challenges to the Transportation, Sale, and Use of Intermediate Ethanol Blends	1	—	1

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Environmental Contamination and Cleanup (cont.)			
GAO-11-514 Hazardous Waste: Early Goals Have Been Met in EPA's Corrective Action Program, but Resource and Technical Challenges Will Constrain Future Progress	1	—	1
GAO-12-74 Electronic Waste: Actions Needed to Provide Assurance That Used Federal Electronics Are Disposed of in an Environmentally Responsible Manner	—	1	1
GAO-12-488 Anthrax: DHS Faces Challenges in Validating Methods for Sample Collection and Analysis	1	—	1
GAO-12-505 Phosphate Mining: Oversight Has Strengthened, but Financial Assurances and Coordination Still Need Improvement	—	1	1
GAO-12-544 Uranium Mining: Opportunities Exist to Improve Oversight of Financial Assurances	1	—	1
GAO-12-585 Oil Dispersants: Additional Research Needed, Particularly on Subsurface and Arctic Applications	1	—	1
GAO-13-252 Superfund: EPA Should Take Steps to Improve Its Management of Alternatives to Placing Sites on the National Priorities List	—	4	4
GAO-14-323 Uranium Contamination: Overall Scope, Time Frame, and Cost Information Is Needed for Contamination Cleanup on the Navajo Reservation	1	—	1
GAO-15-35 Hazardous Waste: Agencies Should Take Steps to Improve Information on USDA's and Interior's Potentially Contaminated Sites	—	3	3
Toxics, Chemical Safety, and Pesticides	**14**	**26**	**40**
GAO-06-595 Human Health Risk Assessment: EPA Has Taken Steps to Strengthen Its Process, but Improvements Needed in Planning, Data Development, and Training	3	—	3
GAO-08-440 Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System	5	3	8
GAO-09-353 Biomonitoring: EPA Needs to Coordinate Its Research Strategy and Clarify Its Authority to Obtain Biomonitoring Data	3	—	3

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Toxics, Chemical Safety, and Pesticides (cont.)			
GAO-10-549 Nanotechnology: Nanomaterials Are Widely Used in Commerce, but EPA Faces Challenges in Regulating Risk	2	3	5
GAO-12-42 Chemical Assessments: Challenges Remain with EPA's Integrated Risk Information System Program	—	6	6
GAO-13-145 Pesticides: EPA Should Take Steps to Improve Its Oversight of Conditional Registrations	—	3	3
GAO-13-249 Toxic Substances: EPA Has Increased Efforts to Assess and Control Chemicals but Could Strengthen Its Approach	—	3	3
GAO-13-369 Chemical Assessments: An Agencywide Strategy May Help EPA Address Unmet Needs for Integrated Risk Information System Assessments	—	3	3
GAO-14-274 Chemical Safety: Actions Needed to Improve Federal Oversight of Facilities with Ammonium Nitrate	1	1	2
GAO-14-289 Pesticide Safety: Improvements Needed in EPA's Good Laboratory Practices Inspection Program	—	4	4
Air Quality, Climate Change, and Energy Efficiency	**12**	**11**	**23**
GAO-06-97 Climate Change: EPA and DOE Should Do More to Encourage Progress Under Two Voluntary Programs	1	—	1
GAO-06-669 Clean Air Act: EPA Should Improve the Management of Its Air Toxics Program	—	5	5
GAO-08-944 Concentrated Animal Feeding Operations: EPA Needs More Information and a Clearly Defined Strategy to Protect Air and Water Quality from Pollutants of Concern	2	1	3
GAO-08-980 Indoor Mold: Better Coordination of Research on Health Effects and More Consistent Guidance Would Improve Federal Efforts	2	—	2
GAO-08-1080 Climate Change: Federal Actions Will Greatly Affect the Viability of Carbon Capture and Storage As a Key Mitigation Option	1	—	1
GAO-09-446 Biofuels: Potential Effects and Challenges of Required Increases in Production and Use	1	—	1

Category and report	Number of recommendations, fiscal years 2006 through 2015		
	Implemented	Not implemented	Total
Air Quality, Climate Change, and Energy Efficiency (cont.)			
GAO-10-336 Vehicle Fuel Economy: NHTSA and EPA's Partnership for Setting Fuel Economy and Greenhouse Gas Emissions Standards Improved Analysis and Should Be Maintained	3	—	3
GAO-11-888 Energy Star: Providing Opportunities for Additional Review of EPA's Decisions Could Strengthen the Program	1	—	1
GAO-12-79 Green Building: Federal Initiatives for the Nonfederal Sector Could Benefit from More Interagency Collaboration	—	1	1
GAO-12-261 Diesel Pollution: Fragmented Federal Programs That Reduce Mobile Source Emissions Could Be Improved	—	1	1
GAO-12-590 Air Pollution: EPA Needs Better Information on New Source Review Permits	—	2	2
GAO-13-135 Energy Efficiency: Better Coordination among Federal Programs Needed to Allocate Testing Resources	1	—	1
GAO-13-242 Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers	—	1	1
Public Health and Environmental Justice	**10**	**9**	**19**
GAO-08-1155T Environmental Health: EPA Efforts to Address Children's Health Issues Need Greater Focus, Direction, and Top-Level Commitment	2	—	2
GAO-09-60 Genetically Engineered Crops: Agencies Are Proposing Changes to Improve Oversight, but Could Take Additional Steps to Enhance Coordination and Monitoring	—	1	1
GAO-10-205 Environmental Health: High-level Strategy and Leadership Needed to Continue Progress toward Protecting Children from Environmental Threats	8	—	8
GAO-12-77 Environmental Justice: EPA Needs to Take Additional Actions to Help Ensure Effective Implementation	—	4	4
GAO-13-254 Environmental Health: EPA Has Made Substantial Progress but Could Improve Processes for Considering Children's Health	—	4	4
Total	**174**	**151**	**325**

Source: GAO

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