



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

## *Protecting America's Waters*

# **EPA Needs to Assess Environmental and Economic Benefits of Completed Clean Water State Revolving Fund Green Projects**

Report No. 16-P-0162

May 2, 2016



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## Abbreviations

ARRA	American Recovery and Reinvestment Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWSRF	Clean Water State Revolving Fund
EPA	U.S. Environmental Protection Agency
GAO	U.S. General Accountability Office
GPR	Green Project Reserve
GPRA	Government Performance and Results Act
OIG	Office of Inspector General
OMB	U.S. Office of Management and Budget

## Cover photos:

**Left:** Biofiltration rain garden located in McCarty Park in Aurora, Illinois, reduces sewer overflows. (EPA OIG photo)

**Right top:** Equalization tank in Beaver Dam, Wisconsin, is used to transform whey from a nearby food plant into energy. (EPA OIG photo)

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# At a Glance

## Why We Did This Review

We conducted this review to determine the environmental and economic benefits of the Green Project Reserve (GPR) in the U.S. Environmental Protection Agency's (EPA's) Clean Water State Revolving Fund (CWSRF) program. The CWSRF is the nation's largest water quality financing source.

From 2009 through 2014, the EPA awarded over \$12.7 billion of CWSRF funds to states. Of that amount, \$3.24 billion (more than 25 percent) funded GPR projects. GPR projects address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities. The EPA provides grants to states to make the most of state CWSRF loan programs. The states contribute an additional 20 percent to match the federal grants. States combine federal funds and their own state dollars to award low-interest loans to communities that need to make water infrastructure improvements.

**This report addresses the following EPA goals or cross-agency strategies:**

- *Protecting America's waters.*
- *Working to make a visible difference in communities.*
- *Working toward a sustainable future.*

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## ***EPA Needs to Assess Environmental and Economic Benefits of Completed Clean Water State Revolving Fund Green Projects***

### What We Found

The EPA does not routinely assess the environmental and economic benefits of completed GPR projects. However, Section 35.115 of Title 40 of the Code of Federal Regulations, the Government Performance and Results Act, and U.S. Office of Management and Budget Circular A-123 require the EPA to establish goals and internal controls to efficiently manage operations, and assess program performance and results.

**The EPA needs to collect and evaluate data on the environmental and economic benefits of over \$3.24 billion in public funds invested in green projects from 2009 through 2014.**

The EPA has not designed a system to collect benefits information after project completion, and agency and state program staff have a perception that benefits collection would be an administrative burden for loan recipients. Despite those perceptions, our work showed that environmental benefits information about some completed projects has been collected and is available. In addition, the EPA has conducted its own studies of select projects, although the agency has not made those studies public. Routine measurement and reporting of benefits from completed projects improves the agency's ability to effectively oversee, manage and monitor the environmental and economic benefits of this substantial \$3.24 billion investment of public funds.

### Recommendations and Agency Response

We recommend that the Office of Water publicly release the EPA's benefit findings from internal reports, develop a routine process to collect GPR benefits data as part of the regular oversight of state programs, and evaluate and report to the public collected environmental and economic benefits information in collaboration with states and GPR loan recipients.

The Office of Water provided a response to our draft report. We met to discuss the Office of Water response, but were unable to reach full agreement on our recommendations. All recommendations are unresolved and the Office of Water will need to initiate the resolution process within 30 days of the final report issuance.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

May 2, 2016

**MEMORANDUM**

**SUBJECT:** EPA Needs to Assess Environmental and Economic Benefits of Completed  
Clean Water State Revolving Fund Green Projects  
Report No. 16-P-0162

**FROM:** Arthur A. Elkins Jr.

A handwritten signature in black ink, appearing to read "Arthur A. Elkins Jr.", is written over the printed name.

**TO:** Joel Beauvais, Deputy Assistant Administrator  
Office of Water

This is a report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

The office responsible for implementing the recommendations in this report is the Office of Wastewater Management within the EPA's Office of Water.

**Action Required**

The Office of Water provided a response to our draft report. We met with the Office of Water to discuss its response, but were unable to reach full agreement on our recommendations. All recommendations are therefore considered unresolved. In accordance with EPA Manual 2750, you are required to contact the Assistant Inspector General for the Office of Program Evaluation to initiate the resolution process within 30 calendar days from the date of this final report.

We will post this report to our website at [www.epa.gov/oig](http://www.epa.gov/oig).

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# Chapter 1

## Introduction

### Why We Did This Review

The U.S. Environmental Protection Agency (EPA), Office of Inspector General (OIG), conducted this review to determine the environmental and economic benefits of the Green Project Reserve (GPR) in the EPA's Clean Water State Revolving Fund (CWSRF) program.

### Background

The CWSRF is the largest federally funded water infrastructure development program. Congress established the CWSRF program to help communities nationwide meet the goals of the Clean Water Act (CWA) by improving water quality, protecting aquatic wildlife, protecting and restoring drinking water sources, and preserving our nation's waters for recreational use. EPA provides grants to states to make the most of state CWSRF loan programs. The states contribute an additional 20 percent to match the federal grants. States combine these funds with their own state dollars to award low-interest loans to communities that need to make water infrastructure improvements. Figure 1 shows the program components and how CWSRF funding is distributed.

Figure 1: CWSRF funding distribution



Source: The EPA's CWSRF website.

The 2009 American Recovery and Reinvestment Act (ARRA) appropriated funds for GPR under the CWSRF by stating:

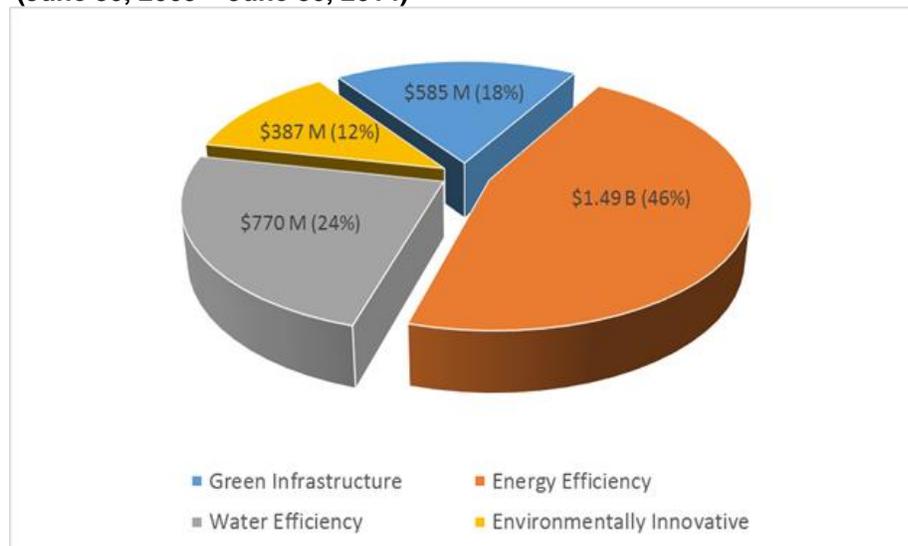
*Provided further,* That, to the extent there are sufficient eligible project applications, not less than 20 percent of the funds appropriated herein for the Revolving Funds shall be for projects to address green infrastructure, water or energy efficiency improvements or other environmentally innovative activities.

The agency asserts that through the CWSRF program, GPR helps the EPA achieve sustainable solutions to wastewater infrastructure needs, and achieve environmental and economic benefits that will continue to accrue for years in the future. The 2012 CWSRF guidance defines the four categories of GPR projects and provides eligibility criteria for each of these categories:

- **Energy Efficiency**—Projects using improved technologies and practices achieve 20-percent reduction in energy consumption of water quality projects, using energy in a more efficient way, or producing or utilizing renewable energy.
- **Green Infrastructure**—Projects using a wide array of practices at multiple scales to manage wet weather, and to maintain and restore natural hydrology by using stormwater. Green infrastructure projects consist of site- and neighborhood-specific practices, such as rain gardens, green roofs, permeable pavements and cisterns.
- **Water Efficiency**—Projects using improved technologies and practices to deliver equal or better services with less water. Water efficiency encompasses conservation and reuse efforts, as well as water loss reduction and prevention to protect water resources for the future.
- **Environmentally Innovative**—Projects demonstrating new and/or innovative approaches to managing water resources to prevent or remove water pollution in an economically and environmentally sustainable way.

Figure 2 shows the distribution of GPR funds by project type for June 30, 2009, through June 30, 2014. Since 2009, the EPA has provided about \$12.7 billion in CWSRF funding to states, and over \$3.24 billion (more than 25 percent) went to GPR projects.

**Figure 2: Breakdown of the \$3.24 billion spent on GPR projects (June 30, 2009 – June 30, 2014)**



Source: OIG analysis of the EPA National Information Management System.

Government policies, regulations and laws stress the importance of assessing the results of government programs. These laws and policies were established to hold federal agencies accountable, provide for transparent operations, and put taxpayer dollars to the best use for maximum effect. Section 35.115 of Title 40 of the Code of Federal Regulations (CFR) requires that grant programs must evaluate performance and include discussions of accomplishments and the cumulative effectiveness of the work performed. The Government Performance and Results Act (GPRA), as amended by the GPRA Modernization Act of 2010, requires all federal agencies to measure program performance by instituting long-term goals supported by interim performance indicators.

The U.S. Office of Management and Budget (OMB) Circular A-123 requires that all agencies and individual federal managers take systematic and proactive measures, including to develop and implement appropriate, cost-effective internal control for results-oriented management that leads to effective and efficient operations. OMB's Guidance for Providing and Using Administrative Data for Statistical Purposes issued in 2014 encourages the use of data to enhance a federal agency's ability to build evidence for evaluating the effectiveness of programs and policies.

## Responsible Office

The Office of Wastewater Management within the EPA's Office of Water is responsible for implementing the recommendations included in this report.

## Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform our work 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. We conducted our audit from December 2014 through November 2015.

We reviewed the laws, regulations, policies, procedures and guidance used for the GPR component of the CWSRF program. We interviewed CWSRF staff at EPA headquarters and in EPA regions, surveyed staff from the 10 EPA regional offices, interviewed wastewater infrastructure organizations, and analyzed national data on CWSRF projects and compliance. We visited EPA Regions 3, 5 and 9, and conducted 12 site visits to green projects in those regions (sites located in California, Illinois, Pennsylvania and Wisconsin). We also interviewed state CWSRF staff.

## Prior Audits

In June 2006, the U.S. Government Accountability Office (GAO) issued a report, *Clean Water: How States Allocate Revolving Loan Funds and Measure Their Benefits* ([GAO-06-579](#)). GAO made no recommendations in this report, but concluded that although there are obstacles in collecting comprehensive environmental benefits, some states were attempting to gather data on actual environmental benefits from their CWSRF-supported projects, including nonpoint source projects.

On February 1, 2010, the EPA issued a report, *EPA Needs Definitive Guidance for Recovery Act and Future Green Reserve Projects* (Report No. [10-R-0057](#)). The report recommended that the EPA develop guidance for green projects, and the EPA should review states' green project submissions in accordance with regulations and guidance. The agency has implemented both recommendations.

In August 2015, GAO issued a report, *Grants Management: EPA Has Opportunities to Improve Planning and Compliance Monitoring* ([GAO-15-618](#)). This review found that the EPA has limited information on agencywide compliance with certain grants management directives intended to provide internal controls over how funds are used and results are obtained. The report states that better monitoring of agencywide compliance with these directives "...could help EPA ... achieve the desired results of protecting human health and the environment." GAO recommended, among other things, that the EPA follow leading strategic planning practices in its draft fiscal years 2016–2020 plan, and develop ways to more effectively use EPA Web-based tools to monitor compliance with directives. The EPA generally agreed with the GAO's findings and recommendations.

## **Chapter 2**

### **EPA Does Not Assess the Environmental and Economic Benefits of Completed GPR Projects**

The EPA does not assess the environmental and economic benefits of completed GPR projects. OMB Circular A-123 and GPRA require that the EPA establish goals, institute internal controls to efficiently manage operations, and measure program results. In addition, an OMB memorandum advises agencies that the use of administrative data will enhance their ability to build evidence on which to evaluate the effectiveness of their programs and policies. However, federal and state program staff said that requiring the collection of project benefits information would serve as a disincentive for potential loan recipients seeking GPR funding. Our work showed that actual benefits from water and energy savings may be available for some projects, but those benefits are not always publicly reported. Routine measurement and reporting of the benefits of completed projects can improve the EPA's ability to effectively oversee, manage and monitor the environmental and economic benefits of the substantial investment of \$3.24 billion in public funds for GPR projects.

#### **EPA Does Not Routinely Measure Environmental and Economic Benefits of Completed Projects**

Although the CWSRF program does not require measuring the benefits of completed projects, such reporting is not legally prohibited. The CWSRF program has chosen to not measure benefits for completed GPR projects for two reasons. First, the CWSRF program does not require grantees to demonstrate outcomes or benefits of completed GPR projects. Second, the CWSRF program staff said they believed that requiring collection of benefits information decreases the program's appeal to potential applicants.

CWSRF staff in EPA headquarters and regions, as well as individual state staff, said that projected benefits are assessed during the selection process. According to regional staff we interviewed, a project is not selected unless it includes a stated environmental or economic benefit. An engineer or inspector may conduct a final project inspection to determine whether the completed project adheres to the design. Once a project is completed, states do not go back to collect information on economic and environmental benefits.

In 2012, the EPA issued program guidance that directed projects eligible for the energy efficiency category to achieve a 20-percent reduction in energy costs. To be eligible in the category of water efficiency, projects must deliver equal or better services with less water. While states choose projects based on projected energy and costs savings that meet certain criteria, there is currently no guarantee

that the criteria are actually being met, nor does the EPA provide a mechanism to collect this information.

Yearly, EPA regional staff conduct state annual reviews of all business cases and evaluate compliance with the GPR requirement. The EPA's annual review checklist does not include questions about the actual benefits of funded projects. The EPA requires states to enter projected environmental and economic benefits into its project-level tracking system—the Clean Water Benefits Reporting database. However, the EPA does not require states to collect or enter actual benefits after project completion. Therefore, there is currently no process within the CWSRF program to collect or aggregate actual benefit information.

## **Data on the Environmental and Economic Benefits of Completed Projects Are Available**

We identified existing data sources for collecting and assessing benefits from completed GPR projects. However, the EPA has not collected, analyzed or reported this information to determine GPR project benefits on a national level. For example, projects at larger publicly owned treatment works use automated systems that track costs, water used, and energy consumption information regarding actual environmental benefits. This information could provide the EPA and states with information on the benefits of their investments.

We also learned about state evaluations of completed GPR projects. According to some states, they have established methods that allow them to assess the environmental or economic benefits of completed GPR projects for other purposes (e.g., ensuring projects meet goals because of local environmental conditions). According to states and GPR grant recipients, they have adopted several strategies to make assessments that include using:

- Regional environmental group initiatives.
- Nonprofit campaigns.
- State-supported information gathering (e.g., the Nevada energy audits, California water reuse reports, and post-project monitoring reports required by the federal government).

**Case Study: Energy Efficiency in Milwaukee, Wisconsin**

In 2010, Wisconsin awarded \$18.39 million in EPA GPR funds to the Milwaukee Metropolitan Sewerage District to build a pipeline from a landfill to the sewerage plant.

This 19-mile pipeline transports methane gas from the landfill, and onsite turbines convert the gas into electricity for the treatment plant. According to the district, the use of landfill gas reduced greenhouse gas emissions at the treatment plant by more than 95 percent, and saved an estimated 17.6 percent in annual energy costs.

We observed that the treatment plant uses an automated system to calculate energy use and costs at the plant. According to the district, historical data can be calculated and measured from the project's inception through the present.

**Right:** A portion of the treatment plant's landfill gas system. (EPA OIG photo)



Many states have placed additional requirements on publicly owned treatment works to adopt progressive reduction strategies or conduct energy audits. These types of reviews assess real savings associated with GPR projects to ensure that investments result in reduced energy costs for plant operations. The state of New York, for instance, established a design handbook for green projects and has adopted best practices for all energy efficiency projects. New Hampshire has implemented new energy efficiency standards for all GPR projects. In addition, the state of Washington requires CWSRF recipients to monitor environmental impacts after GPR project completion.

In 2013, the Association of California Water Agencies, the California Association of Sanitation Agencies, the National Association of Clean Water Agencies, the Water Reuse Association, and the Western Recycled Water Coalition collaborated to conduct a national survey of recycled water projects. These organizations found that in 14 states, over 783 million gallons of water per day were being recycled and reused. Funding for the projects included \$380 million from the State Revolving Fund loan program (the largest funding source), and funding from other federal and state grant programs. These efforts provide valuable information to the state about the environmental and economic benefits of these and other efficiency projects.

### **Case Study: Energy Production in Beaver Dam, Wisconsin**

The state awarded over \$20 million in EPA GPR funds to the Beaver Dam Wastewater Treatment Plant in 2009, and the plant began operating in 2011.

According to officials for the city of Beaver Dam, the nearby food manufacturing plant generates over 23 million gallons of whey per year—waste that could not be discharged into the city's sewer system. Whey is ideal for the production of biogas, a gaseous product of the decomposition of organic matter generated through a fermentation process. The food manufacturing plant pretreats the whey and pumps it over to the neighboring Beaver Dam Wastewater Treatment Plant. With minor cleanup, biogas can be used to generate electricity. In this case, 90 percent of the pollutants are removed, and the biogas then powers generators to produce electricity.

According to plant staff, in 2014, the treatment plant made approximately \$110,000 selling excess energy, which reduced its overall operating costs. Automatic tracking systems at the treatment plant allow for the historical tracking of energy and cost savings.

*Right: The pretreatment of whey in a dissolved air flotation tank. (EPA OIG photo)*



## **EPA Has Conducted Some Case Studies but Has Not Routinely Measured and Publicly Reported Benefits**

The EPA conducted case study reviews, and made efforts to assess benefits, but the agency has not developed routine, uniform methods for reporting and evaluating the benefits of completed GPR projects.

The EPA began collecting case studies about GPR projects. These projects, which the agency profiles on a [CWSRF “Success Stories”](#) page on its website, yielded many reported environmental benefits. For example, San Bernardino, California, received \$32 million in GPR funds to invest in a publicly owned treatment works water efficiency project to convert recycled wastewater into irrigation water for agricultural entities. As a result of this project, it was reported that San Bernardino County conserves 20 million gallons of recycled water per day.

In another example, Lenexa, Kansas, invested \$1 million in GPR funds to construct a stream to divert stormwater to prevent combined sewage overflows. It was reported that this green infrastructure project provided multiple benefits, including the recreational, residential and retail use of the new greenspace, while also using native plant species to absorb stormwater before it goes into the sewers. If funds remain available, the EPA plans to continue these case study profiles in the future.

The EPA also took steps to assess program benefits in two internal reviews. In a 2011 review, the EPA hired a contractor to evaluate the environmental results for

a subset of GPR projects funded under ARRA. The report, *Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects*, identified quantifiable environmental benefits for water and energy efficiency, as well as for green infrastructure projects.

For the second review, in 2012, the agency contracted to assess a sample of ARRA-funded energy and water efficiency projects. The report, *Compilation of Technical Project Information and Project Performance Information*, evaluated 117 case studies of green projects, and also provided project costs and benefits using a variety of sources.

The agency believes that both reports provide an accurate picture of the quality and consistency of benefits information available at project sites. However, according to the EPA, neither of these publicly funded reports were published due to data limitations.

We believe the EPA's two reports provide foundational measurements of project results, serving as a first step toward routine and comprehensive analysis of program benefits. By publicly disclosing and sharing these reports, along with any applicable data limitations, the EPA establishes its commitment to management practices that evaluate and monitor the benefits of completed green project benefits, such as:

- Standardizing some data collection for actual environmental and economic benefits (e.g., having energy and water savings verifications designed into each project) in the Clean Water Benefits Reporting database for all states, and that can be collected from loan and grant recipients.
- Aggregating benefits data on an annual basis based on energy, water and pollutant savings in at least one subcategory of each GPR category.
- Leading a consortium of financial firms, nongovernmental organizations, states, universities and other stakeholders to assess the environmental benefits from publicly owned treatment works, and issue reports to the public about benefits and lessons learned.

## Conclusions

The EPA has invested over \$3.24 billion of public funds in GPR projects since 2009 to help achieve the goals of the CWA. The EPA must assess the results of green projects to meet the requirements of GPRA, and ensure that funded projects meet intended goals. Without collecting information about environmental and economic benefits, the agency is limited in its ability to assess the effectiveness and value of projects funded by the CWSRF program. In the absence of such data, the agency cannot determine whether this expenditure of public funds could be used and targeted more efficiently. The EPA can start by reporting the existing

benefits information already collected by the agency and states. This would serve as an important step toward broadly assessing the value of using public money for green projects around the nation.

## Recommendations

We recommend that the Assistant Administrator for Water:

1. Require that findings from the EPA's 2012 *Compilation of Technical Project Information and Project Performance Information* report, and the agency's 2011 *Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects* report, be provided to the public, with any necessary data quality limitations disclosed. Ensure that both reports include any follow-up data that has been collected on actual project results from the originally sampled entities.
2. Implement a process (through a grant requirement or otherwise) for routine collection of GPR benefits of completed projects as part of the EPA's regular oversight of state programs.
3. Report collected environmental and economic benefits information to the public, in collaboration with states and GPR loan recipients, and determine how GPR funds could be efficiently used in accordance with GPRA standards for measuring program performance.

## Office of Water Response and OIG Evaluation

The Office of Water provided a response to our draft report. That response is included in this report as Appendix A. The agency stated it agreed with Recommendation 1, but its planned actions only indicated partial agreement and did not include estimated completion dates for corrective actions. The agency disagreed with Recommendations 2 and 3. We met with the agency to discuss its response and reach resolution on the recommendations. In our meeting, the Office of Water disagreed with our recommendations and offered alternative actions that are not acceptable to the OIG. Therefore, we consider all recommendations to be unresolved. The Office of Water needs to initiate the resolution process with the Assistant Inspector General for Program Evaluation within 30 days of this final report issuance.

## **Status of Recommendations and Potential Monetary Benefits**

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status <sup>1</sup>	Action Official	Planned Completion Date	Claimed Amount	Agreed-To Amount
1	10	Require that findings from the EPA's 2012 <i>Compilation of Technical Project Information and Project Performance Information</i> report, and the agency's 2011 <i>Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects</i> report, be provided to the public, with any necessary data quality limitations disclosed. Ensure that both reports include any follow-up data that has been collected on actual project results from the originally sampled entities.	U	Assistant Administrator for Water			
2	10	Implement a process (through a grant requirement or otherwise) for routine collection of GPR benefits of completed projects as part of the EPA's regular oversight of state programs.	U	Assistant Administrator for Water			
3	10	Report collected environmental and economic benefits information to the public, in collaboration with states and GPR loan recipients, and determine how GPR funds could be efficiently used in accordance with GPRA standards for measuring program performance.	U	Assistant Administrator for Water			

<sup>1</sup> O = Recommendation is open with agreed-to corrective actions pending.  
 C = Recommendation is closed with all agreed-to actions completed.  
 U = Recommendation is unresolved with resolution efforts in progress.

## ***Agency Response to Draft Report***

*February 24, 2016*

### **MEMORANDUM**

**SUBJECT:** Draft OIG Audit Report: EPA Needs to Assess Environmental and Economic Benefits of Completed Clean Water State Revolving Fund Green Projects, Project No. OPE-FY15-0009

**FROM:** Joel Beauvais  
Deputy Assistant Administrator

**TO:** Carolyn Copper, Assistant Inspector General  
Office of Program Evaluation

Thank you for the opportunity to review and comment on the draft report of the Office of Inspector General titled, *EPA Needs to Assess Environmental and Economic Benefits of Completed Clean Water State Revolving Fund Green Projects*. The Office of Water has a number of comments based on our review. Our comments and response to the OIG's recommendations are provided below.

#### **Clarification: Internal Controls and Environmental Benefits Information**

In its summary of findings, the OIG states that (1) EPA does not assess the environmental and economic benefits of completed GPR projects and (2) measuring the results of GPR projects is not required by the Clean Water Act. The OIG goes on to reference Title 40 of the CFR, the Government Performance and Accountability Act, and OMB Circular A-123 and suggests that the CWSRF program falls short of establishing goals and internal controls to efficiently manage operations, and assess program performance and results. This interpretation is used as the basis for the OIG's recommendation that the CWSRF program needs to collect and evaluate data on the environmental and economic benefits of GPR projects. We strongly disagree with this assessment.

As of June 30, 2015, the state CWSRF programs have provided more than \$111 billion in loans to communities across the country, including the \$3.9 billion in green project funding that is the focus of this report. The CWSRF program has a number of policies, procedures and controls in place to ensure that tax payer dollars are used efficiently and effectively to fund a wide range of water quality infrastructure projects. Pursuant to the Government Performance and Results Act and OMB Circular A-123, the OW has a number of financial and internal controls in place to direct funding to environmentally sound projects that are results-based. These include annual

reviews of the state-run CWSRF program by EPA Regions. These annual reviews focus on financial and programmatic aspects of the CWSRF programs and include transaction testing, invoice review, and project file review (e.g., documentation of compliance with environmental review, crosscutters, American Iron and Steel, etc.). Independent audits are conducted each year by most CWSRF programs. And, inherent to the state-run programs is a project ranking system that emphasizes projected water quality benefits.

State priority systems are an important program procedure that states use to rank projects based primarily on environmental and public health criteria. Since the state priority systems emphasize projects with environmental and public health benefits, EPA is confident that the pipeline of projects feeding into the CWSRF is appropriately results-oriented. States use the priority system to rank all projects, including green projects.

Beyond the inherent benefits achieved through controls built into the program to ensure high quality environmental projects, the EPA collects information on projected environmental benefits of all projects through the CWSRF Benefits Reporting (CBR) system. The CBR system, developed through a collaborative effort between EPA and the states, allows users to record the anticipated water quality improvements from every CWSRF loan used to protect and restore waterbodies. Through this database, the EPA can link CWSRF funding to projects that protect and restore drinking water sources, recreational areas and aquatic life throughout the country. The CBR database also captures economic benefits resulting from affordable CWSRF funding by showing the savings resulting from its below market rate loans. The EPA Grants Administration Division approved the use of CBR to comply with EPA Order 5700.7 *Environmental Results Under Assistance Agreements* and EPA documented this agreement in the policy memorandum issued on June 5, 2005, *Clean Water State Revolving Fund Compliance with EPA Order on Environmental Results*. The CBR system is evidence that the CWSRF program complies with the Agency policy on reporting environmental results.

In its draft report, the OIG recommends that the EPA implement a process for routine collection of GPR benefits of completed projects as part of the EPA's regular oversight of state programs. The EPA believes that collecting actual, measured benefits on a project-by-project basis would be an extremely inefficient use of our oversight resources and any benefit of having this additional information would have to be weighed against the significant cost of obtaining it. This is an extremely important consideration because environmental monitoring activities are not an allowable use of CWSRF funds and the states and assistance recipients would bear the burden of paying for data collection.

Finally, the OIG does not acknowledge in its report the broader framework of the EPA's GPRA reporting and results, specifically attaining water quality standards through implementation of the Clean Water Act. In accordance with the Agency's Performance Management framework, the EPA establishes measures that align with the Agency Strategic Plan, the Agency Annual Plan and Budget, and National Program Guidance issued by the National Program Managers. Results from the EPA grant programs are tracked and reported within the performance framework, and captured in Agency performance databases, such as PERS and ACS. Data from these systems, is used by Agency leadership in the development of Organizational Assessments, Agency Priority Goals and the Annual Performance Report. The EPA has in place hundreds of

output and outcome measures to track overall agency performance, many of which incorporate performance from state grants. Commitments and results are tracked and reported at multiple scales in the Agency performance management framework. Program performance under state grants is routinely an element of senior management results discussions and a performance consideration for the EPA managers. The CWSRF state priority systems and national reporting through CBR support the goal of attaining or maintaining water quality standards. Over 96% of CWSRF funding assistance goes to publicly-owned treatment works that are permitted under the National Pollutant Discharge Elimination System program. These permits are based on water quality standards established by the states for receiving waters. The standards define beneficial uses for the receiving waters which the permitted discharges are intended to protect or restore. The CWSRF program has played and continues to play a vital role in achieving and maintaining compliance with enforceable requirements of the Clean Water Act embodied in water quality standards and NPDES permits. The Agency routinely reports on improvements in/attainment of water quality standards as part of the EPA's strategic planning process.

### **Response to Recommendations**

The report makes the following recommendations (p.11):

We recommend that the Deputy Assistant Administrator for Water:

1. Require that findings from the EPA's 2012 *Compilation of Technical Project Information and Project Performance Information* report, and the agency's 2012 *Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects* report, be provided to the public, with any necessary data quality limitations disclosed. Ensure that both reports include any follow-up data that has been collected on actual project results from the originally sampled entities.
2. Implement a process (through a grant requirement or otherwise) for routine collection of GPR benefits of completed projects as part of the EPA's regular oversight of state programs.
3. Report collected environmental and economic benefits information to the public, in collaboration with states and GPR loan recipients and determine how GPR funds could be efficiently used in accordance with GPRA standards for measuring program performance.

### Recommendation 1 - Concur

The OW concurs with the first recommendation of the OIG, to provide the Agency's 2012 *Compilation of Technical Project Information and Project Performance Information* report, and the 2012 *Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects* report to the public. The EPA drafted a summary report for the *Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects* which explains data quality limitations. The OW does not plan to update these reports with follow-up data from the originally sampled entities.

## Recommendation 2 - Do Not Concur

The OW does not concur with the OIG's second recommendation - that EPA, "Implement a process (through a grant requirement or otherwise) for routine collection of GPR benefits of completed projects as part of the EPA's regular oversight of state programs." The OW believes that collecting benefits information on a project-by-project basis would be impractical due to the variability in project types, data availability and consistency, and that implementation would impose a significant and possibly untenable administrative burden on the states and loan recipients.

The OIG notes in the report that there are existing sources of benefits information for completed GPR projects and provides an example that, "projects at larger publicly owned treatment works use automated systems that track costs; water used; energy consumption information about actual environmental benefits." While it is true that there are existing sources of benefits information available for some projects, the EPA learned through the development of the 2012 report, *Estimated Environmental Benefits Associated With ARRA-Funded Green Project Reserve Projects*, that the type and quality of the information available varied significantly between projects. Larger POTWs may have automated systems in place to collect data that can be used for benefits analysis; however, 67 percent of CWSRF loans are for projects that serve communities of less than 10,000 people. These small communities often have limited capacity to collect benefits information and report to the EPA. Further, data availability is likely to vary greatly amongst GPR project categories. The collection of economic and environmental benefits information would vary greatly in the quality and consistency of the data reported.

Drawing meaningful conclusions about GPR projects as a whole from environmental and economic data reported for completed projects would be impractical due to the variability in project types, data availability and consistency. The EPA's 2012 report, referenced above, found that many projects included more than one GPR category and multiple subcategories. For instance, several projects had multiple water efficiency components (e.g. meter installation and water reclamation) as well as several energy efficiency components (e.g. high efficiency pumps and solar power). This made it difficult to determine which project costs and cost savings were associated with each project subcategory, as costs were not typically broken down to the subcategory level in the available data. The study also revealed the difficulty in extrapolating numbers for cost savings and environmental benefits from a subset of projects to whole categories of projects. Many of the projects that were included in the data analysis demonstrate significant environmental benefits, but there was considerable variation in the type and size of projects between subcategories, and even within subcategories, which made it difficult to accurately extrapolate these benefits to entire GPR project categories.

A grant condition requiring states to report on the environmental and economic benefits of completed GPR projects would necessitate a reporting requirement for assistance recipients. Such a requirement would make the program less attractive to potential borrowers. Monitoring activities are not an allowable use of CWSRF funds and assistance recipients would bear the burden of paying for data collection. Given the costs, borrowers may even decide to forego the project. Such a requirement would also present a timing issue. Requiring assistance recipients to

report to states and/or EPA after project completion will create a significant administrative burden on state CWSRF programs.

Finally, the OW believes that our existing oversight process is strong and ensures that CWSRF funding is directed to projects that yield significant environmental and public health benefits. The state priority systems and CBR system provide a sound framework for documenting projected water quality benefits that are linked to permitting requirements and/or attainment of state water quality standards.

### Recommendation 3 – Do Not Concur

The final recommendation of the OIG is to, “Report collected environmental and economic benefits information to the public, in collaboration with states and GPR loan recipients and determine how GPR funds could be efficiently used in accordance with GPRA standards for measuring program performance.”

The OW already reports projected environmental and economic benefits information for funded projects to the public via the CWSRF website. This year, the OW is reinstating a CWSRF Annual Report that includes benefits information and is expected to be made publically available on the CWSRF website this Spring.

Furthermore, the EPA disagrees with the OIG’s assertion that GPR funds are not being used efficiently nor in accordance with GPRA standards for measuring program performance. CWSRF program implementation is founded on program policies, procedures and controls that support sound program management, implementation and environmental results. The program operates in accordance with the EPA’s environmental results policy.

### Alternative Actions

In an effort to address the recommendations in the draft report, the EPA has already initiated an effort to develop detailed case studies highlighting noteworthy CWSRF projects from around the country. Many of these case studies will highlight GPR projects. The EPA will develop these “projects of interest” quarterly and feature them on its CWSRF website and social media. We believe that the use of case studies, similar to those highlighted by the OIG in the draft report, is the most effective way to communicate the economic and environmental benefits of completed GPR projects to the public. Such case studies provide the opportunity to identify the nuances of projects that may have resulted in greater economic and environmental benefits; share ideas and promote practices among the CWSRF programs; and allow the EPA to tell a compelling story to the public that cannot be communicated by numbers on a page.

The EPA plans to further address the recommendations in this report with the implementation of a recognition program to highlight high quality CWSRF projects. Projects that utilize innovative technologies or sources of repayment; result in exceptional environmental, economic, or public health benefits; or feature unique partnerships will be nominated by the EPA regional offices for recognition. The EPA expects that GPR projects will be among the nominees.

We appreciate the opportunity to comment on the draft report and look forward to the final report. If you have any questions, please contact George Ames at (202) 564-0661 or Kelly Tucker at (202) 564-0608.

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