

FINANCING INDUSTRIAL WATER REUSE WITH THE CLEAN WATER STATE REVOLVING FUND

WateReuse Association – October 2014

EXECUTIVE SUMMARY

In response to water shortages and rising water rates, many commercial, industrial, and institutional water users are now looking to treat and reuse water onsite as a means of reducing their costs and increasing the reliability of their water supplies. While public water utilities have long had access to government subsidized financing through the Clean Water State Revolving Fund (CWSRF), industries have had to finance their industrial water treatment and reuse systems primarily through a combination of commercial loans and the issuance of corporate bonds. However, the 2014 Water Resources Reform and Development Act (WRRDA) allows private sector companies to obtain CWSRF loans to construct onsite industrial water reuse and any other privately owned water reuse facilities effective October 1, 2014. This white paper highlights the reasons why private companies might benefit from CWSRF loans and identifies some of the challenges associated with public financing that they could face.

INTRODUCTION

With water shortages in the American Southwest, rising costs, and technological advancements in water treatment technologies, a wide variety of industry sectors are looking towards water reuse as a way to help control costs and provide a reliable source of water for a variety of activities. Industrial water reuse is not a new phenomenon with many municipalities throughout the country providing high quality recycled water to industries for irrigation, industrial cooling, and other activities. Many industries are now looking towards onsite water reuse to treat and reuse the wastewater they generate to serve another useful purpose. To finance such activities public utilities have long had access to government subsidized financial support, first through the Construction Grants Program in the 1970s and 1980s to the existing Clean Water State Revolving Fund (CWSRF) established in 1987. However, privately owned facilities have largely been on their own to fund such activities. Recent amendments to the CWSRF have expanded eligibilities to allow privately owned water reuse facilities to have access to government subsidized loans for the first time through traditional means.¹

Currently, industrial water reuse and other privately owned water reuse activities are typically financed through a combination of existing revenues and debt financing whether it be through a bank loan or a corporate bond issuance. This puts the private sector at a distinct disadvantage to the public sector which has long had access to the municipal bond market that offers lower interest rates than the corporate bond market, CWSRF loans that have rates lower than even the municipal bond market, and even grants that require no repayment of funds. By leveling the playing field, industrial water users have the potential to further their adoption of water reuse activities and put industry on a path to more sustainably utilize increasingly unpredictable water supplies. This White Paper will present important information on the CWSRF to provide industrial users with the necessary information to engage with state government agencies and obtain access government financing resources.

¹ Federal Water Pollution Control Act, 33 USC 1383, §603(c)(10) (2014).

WHAT IS THE CLEAN WATER STATE REVOLVING FUND?

The CWSRF was established in 1987 to provide federal support for wastewater infrastructure and other water quality protection projects. Prior to its establishment, EPA’s Construction Grants Program provided over \$60 billion in funding for the construction of publicly-owned treatment facilities². This program was discontinued in 1990 with the CWSRF replacing it as the primary source of federal financial support for wastewater infrastructure. With oversight from EPA, the CWSRF program is administered through the 51 state programs (including Puerto Rico) that operate as infrastructure banks to provide eligible borrowers with low-interest loans to fund a variety of wastewater and water quality projects. As the states receive loan payments, these funds can be loaned out again to new borrowers, hence the revolving nature of the program (Fig. 1).

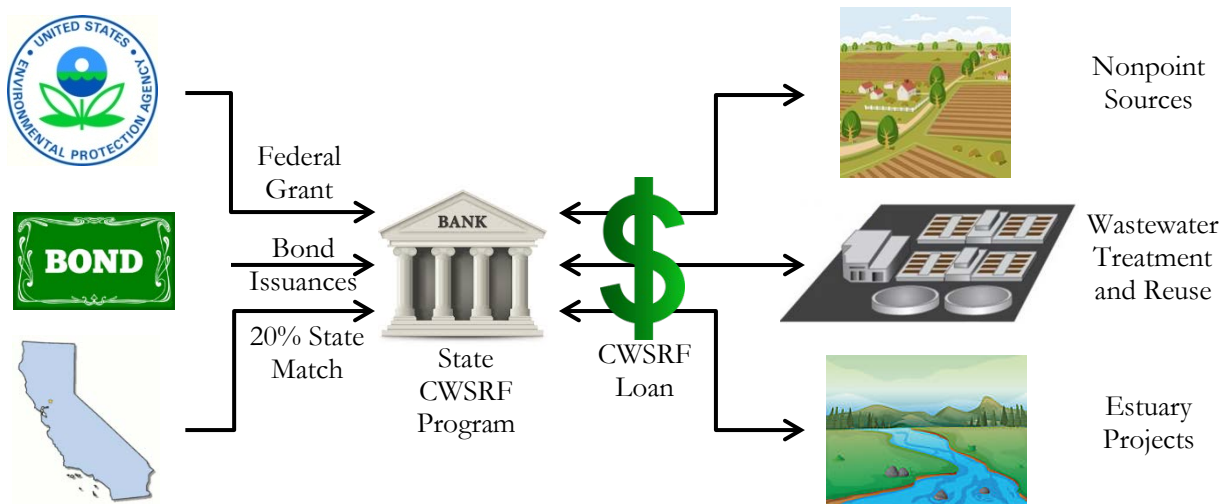


Figure 1. Flow of Funds from the CWSRF Program

Through June 2014, the CWSRF has funded over \$100 billion worth of infrastructure projects with approximately \$5 billion funded annually. Because of the revolving nature of the program, for every dollar in federal appropriations, \$2.70 has been committed for projects. In addition to using loan repayments for projects, many states leverage their funds through bond issuances on a periodic basis depending on demand. During this time the vast majority of funding has gone to traditional secondary and advanced wastewater treatment, but throughout the life of the program nearly \$700 million in funding has gone towards water reuse and recycling with over \$67 million provided in 2013³.

Up until now, projects eligible for CWSRF funding have been limited to publicly-owned treatment works, including water reuse and recycling, along with stormwater infrastructure, nonpoint source remediation projects, and other similar activities. During this time, privately owned treatment facilities have not been eligible, aside from a few underutilized exceptions. However, the Water Resources Reform and Development Act (WRRDA) that was signed into law in 2014 has expanded these eligibilities to include privately owned facilities that reuse or recycle wastewater, stormwater, or subsurface drainage water. This includes onsite industrial water reuse and any other water reuse facilities that are privately owned. This can include treatment systems, distribution systems, and other related systems. However, funding can only be used for capital costs

² United States Environmental Protection Agency. “Construction Grants Program” http://water.epa.gov/grants_funding/cwf/Construction-Grants-Program.cfm (accessed October 2014)

³ National Information Management System, United States Environmental Protection Agency, 2013.

for the construction of new facilities or the rehabilitation of existing facilities. Operations and maintenance costs are not eligible.

WHAT ARE THE BENEFITS OF THE CWSRF?

Since its inception, municipalities have benefited from the advantages that the CWSRF can provide compared to the municipal bond market and other funding sources. CWSRF programs are permitted to offer loans at interest rates no higher than the prevailing municipal bond rate and can be as low as zero percent. There are also opportunities for additional subsidization in the form of principal forgiveness of loans, negative interest rates, and grants. However this additional subsidization is not directly available to privately owned facilities. Currently, the average interest rate on a CWSRF loan is 1.7% compared to 3.7%⁴ for the municipal bond market and 4.6%⁵ for corporate bonds. This difference in interest rate can result in significant savings over the term of the loan. In the case of a CWSRF loan at 1.7% and a municipal bond at 3.7%, the CWSRF loan can result in savings of 17%. These savings can be even higher when compared to a corporate bond issuance.

EPA currently has available its Financing Alternatives Comparison Tool (FACT)⁶ that allows users to compare various financing options to determine the most cost effective method of financing a water infrastructure project. Users can input various interest rates from a variety of financing sources and determine how a CWSRF loan would compare to a traditional bond issuance or bank loan. For example, using the assumption of a basic CWSRF loan at 1.7% compared to a corporate bond issuance at a rate of 4.6%, the CWSRF loan results in savings of 26.2% over the life of a 20-year loan entirely due to the discounted interest rate. This tool allows potential borrowers to use their own specific financial information to determine the potential savings of a CWSRF loan, when factoring in the potential extra costs from using the CWSRF program (see the following section). Currently, FACT is not optimized for privately owned facilities, but the tool is flexible and can provide an illustrative example of the potential financial benefits of the CWSRF program.

Aside from the direct financial benefits that the CWSRF was specifically designed to provide, there are other potential benefits to borrowers. One advantage of the CWSRF is that it does not operate like bond investors and can offer flexible payment schedules for projects with high upfront costs where financial benefits may not come until later. Also, banks and bond investors are generally not experts in water reuse or even infrastructure investments and may not fully understand the construction process along with some of the problems that may arise. On the other hand, the CWSRF works primarily with water infrastructure projects and therefore has a greater understanding of the water treatment and construction process.

If issues arise in the construction or operations stage, payments can be postponed or restructured to ensure that borrowers are able to repay in a manner that is not overly burdensome. This can be important for new technologies or new applications of existing technologies where there is less certainty in the construction and operations of such facilities. Flexible repayment options can result in decreased risk associated with new

⁴ United States Environmental Protection Agency. “Clean Water State Revolving Fund” http://water.epa.gov/grants_funding/cwsrf_index.cfm (accessed October 2014)

⁵ Internal Revenue Service. “Composite Corporate Bond Rate Table” <http://www.irs.gov/Retirement-Plans/Composite-Corporate-Bond-Rate-Table> (accessed September 2014)

⁶ United States Environmental Protection Agency. “Financing Alternatives Comparison Tool (FACT)” http://water.epa.gov/grants_funding/cwsrf/fact.cfm (accessed October 2014)

technologies and provide greater financial stability. Throughout the life of the program, the state CWSRF programs have worked with struggling municipalities to offer flexible payment schedules which has resulted in an extremely low default rate. Additionally, loans are available at terms of up to 30 years to help spread the project cost over a longer period of time.

POTENTIAL DRAWBACKS OF THE CWSRF

As with any government program, there are some drawbacks to working with the CWSRF program that should be taken into consideration. In accordance with the Clean Water Act, all borrowers must undergo a complete environmental review in accordance with the National Environmental Policy Act (NEPA). However, a State may choose to apply its own “NEPA-like” State Environmental Review Process (SERP) to comply with the Clean Water Act. This requirement is due to the regulations that require borrowers to demonstrate compliance with the federal cross cutting authorities on issues ranging from endangered species protection to historical preservation. The complete list of federal crosscutters is as follows:

- National Historic Preservation Act and Archaeological and Historic Preservation Act
- Protection of Wetlands – Executive Order 11990
- Flood Plain Management – Executive Order 11988
- Farmland Protection Policy Act
- Coastal Zone Management Act and the Coastal Barriers Resource Act
- Wild & Scenic Rivers Act
- Endangered Species Act and Essential Fish Habitat Act
- Clean Air Act
- Safe Drinking Water Act
- Civil Rights Laws and Equal Employment Opportunity
- Disadvantaged Business Enterprise Provisions

The cost of compliance with each of these crosscutter provisions can vary depending on the type of project being considered. For example, the rehabilitation or expansion of an existing facility will likely result in what is known as a Categorical Exclusion and not require an extensive review. On the other hand, new facilities or large expansions may require a more time intensive and costly Environmental Assessments or potentially Environmental Impact Statements. Further details on SERPs can be found with the state agencies responsible for the CWSRF program.

In addition to expanding CWSRF eligibilities, WRRDA also contains a number of other provisions. One such provision states that CWSRF funds “may not be used for a project for the construction, alteration, maintenance, or repair of treatment works unless all of the iron and steel products used in the project are produced in the United States.” This provision is known as the American Iron and Steel (AIS) requirement and it may result in higher construction costs when a domestic product costs more than a foreign produced product. The AIS requirement applies to the following products:

- Lined or unlined pipes and fittings
- Manhole covers and other municipal castings
- Hydrants

- Tanks
- Flanges
- Pipe clamps and restraints
- Valves
- Structural steel
- Reinforced precast concrete
- Construction materials

Lastly, Davis-Bacon Act wage rates have been a part of the CWSRF program since the American Recovery and Reinvestment Act of 2009. The current requirements state that Davis-Bacon Act wage rates “shall apply to the construction of treatment works carried out in whole or in part with assistance made available” by a state CWSRF program. Depending on what the local market rate for available labor for construction is, Davis-Bacon requirements could result in increased costs for construction. Potential CWSRF borrowers should take the potential additional costs from Davis-Bacon wage rates and these other requirements into consideration when determining if the CWSRF is a good option to pursue.

HOW THE CWSRF PROGRAM IS ADMINISTERED

As stated previously, the state CWSRF programs operate as infrastructure banks loaning funds to borrowers, borrowers repaying loans, and the states then using those repayments for additional loans. While each state administers their program differently, there are still several common elements to each program. For the types of projects eligible for CWSRF funding, the Clean Water Act as amended determines the full range of eligibilities for the program. However, while states cannot expand eligibilities, they can restrict what types of projects are eligible. Therefore, while the Clean Water Act may permit a type of project to be eligible to receive funding, a state may not necessarily deem it eligible. Additionally, each state sets their own priorities on what projects to fund along with how they evaluate projects. In general, even though privately owned water reuse facilities are eligible for funding under the Clean Water Act, some states may make them a low priority or choose not to fund them at all.

One common requirement for each state CWSRF program is that they must evaluate each of their potential projects using a transparent and publicly available project priority system (see example in Table 1). These systems should reflect the state’s water infrastructure priorities and evaluate projects on a numerical basis using a variety of criteria that may include water quality benefits, public health protection, regulatory needs, and other unique criteria. Evaluations can be done on both a quantitative or qualitative basis. When looking to apply for a CWSRF loan it will be useful to evaluate the state’s project priority system to determine if there are any simple modifications to a project, such as upgrades in energy efficiency or other important factors, that can improve a project’s score to therefore increase the chance of receiving funding. Typically, the best resource for information regarding a state’s CWSRF program and their project priority systems is a state’s Intended Use Plan (IUP). States must release an IUP on an annual basis including information on their program priorities for the coming year, projects they intend to fund, and important information for potential borrowers regarding state specific policies.

TABLE 1: TEXAS – RANKING CRITERIA FOR SEC. 212 PROJECTS (POTWS INCLUDING REUSE)⁷

Project Priority Criteria	Points
Enforcement action (court, EPA, or TCEQ order) imposes a schedule	30
Enforcement action: Participation in TCEQ’s SSO (Sanitary Sewer Overflow) Initiative	20
Unserved area of an existing developed community is extended service	11
Unserved area to be served has a nuisance documented by letter from the TCEQ or a Designated Agent licensed by the TCEQ. If the project is in an Economically Distressed Areas Program county, the letter may come from the State Health Department or a registered sanitarian	30
Water body impacted by project is listed in a Watershed Protection Plan approved by the EPA	10
Water body impacted by project is listed in a Watershed Protection Plan under development	5
Innovative or alternative types of collection or treatment are proposed	15
Innovative approaches in stormwater treatment or minimization are proposed	15
More stringent permit limits are to be met, or Conversion to a no-discharge or partial reuses facility to avoid higher level of treatment	30
Regional project removes or prevents plant outfalls, or Regional project results in delivery of flow to, or receipt of flow at, a regional facility, thereby avoiding construction of a separate WWTP facility	10
Project involves a facility that requires expansion of its hydraulic capacity or removal of extraneous flow. Available points depend on the percentage of permitted capacity improved	15-30
Projects that impact water body by directly or indirectly mitigating a problem identified in the latest approved State of Texas Watershed Action Planning Strategy Table (WAP) – Available points depend on if the water body is in a priority area and/or the status of a TMDL study	Up to 50
Entity qualifies as a disadvantaged community	10

As can be seen, Texas awards priority points to projects that engage in water reuse activities. If such a project can include points from other categories, water reuse projects can effectively compete for state funding.

After projects are evaluated using the project priority system they are ranked according to their numerical score. Typically, states fund projects in the order of their ranking with the highest ranking projects receiving priority over the lowest ranking projects. In most states, the number of projects to be funded in a given year is limited to the amount of available loan funds. By using the project priority list and the amount of available funding, states will develop an eligible funding list that delineates which projects will be funded. However, EPA does not require the states to fund projects according to their ranking. Some states have their own requirements to do so, but all states have bypass procedures in which a lower ranked project can receive priority over a higher ranked project. In many cases, these bypass procedures are based on a project’s “readiness to proceed” which refers to a project’s ability to move to construction shortly after a loan is closed. In some cases, potential borrowers will submit applications for projects that are not ready to proceed in order to have the project on the priority list to eventually receive funding once they are ready to proceed. In general, it is best for potential borrowers to ensure that projects will be ready to proceed to construction shortly after loan closing as this can greatly increase the chances of receiving CWSRF funding.

Typically, once a project is on the eligible funding list borrowers will begin to work with the state to develop the full terms of a funding agreement. When setting loan rates, the only federal requirement is that interest rates must be below the market rate for municipal bonds and states can offer interest rates as low as zero percent. However, exactly how rates are set varies from state to state. In general, in the case of public entities many states base their interest rate on the economic conditions of the impacted community with lower interest rates provided to more disadvantaged communities. Other states provide lower interest rates for new and innovative technologies. It is unknown what interest rates will be available to privately owned facilities, as

⁷ Texas Water Development Board. “State of Texas Intended Use Plan – Clean Water State Revolving Fund” http://www.twdb.texas.gov/financial/programs/CWSRF/doc/SFY15/SFY15_CWSRF_IUP.pdf (accessed October 2014)

traditional borrowers have been primarily public entities. However, it is certain that available rates will be below market rates for corporate bonds and likely bank loans as well.

WHAT DO BORROWERS NEED TO KNOW?

Before approaching a state CWSRF program, potential borrowers should come prepared with an understanding of how the program works. Borrowers should keep in mind that while there are federally mandated requirements that all states must adhere to, each state program may have additional policies that potential borrowers must follow in order to receive funding. In general, state CWSRF programs prefer to work with borrowers they have worked with before or at the very least have a good understanding of the program's unique requirements compared to other more traditional sources of funding. As the state CWSRF programs update their policies to accommodate these new eligibilities, potential borrowers should reach out to the state programs to help ensure that their needs can be accommodated. In addition, early contact with the state programs (see Appendix for contact information) will help potential borrowers navigate the application process and give them the information they need to put together a successful funding application.

ABOUT THE WATE REUSE ASSOCIATION

The WateReuse Association is a nonprofit organization whose mission is to advance the beneficial and efficient uses of high-quality, locally produced, sustainable water sources for the betterment of society and the environment through advocacy, education and outreach, research, and membership. Across the United States and the world, communities are facing water supply challenges due to increasing demand, drought, depletion and contamination of groundwater, and dependence on a single source of supply.

ABOUT THE WATE REUSE INDUSTRIAL REUSE COMMITTEE

The WateReuse Industrial Reuse Committee (IRC) provides industrial water users with a forum to share their experiences, explore new technologies, and advocate for legislative and regulatory changes that promote industrial water reuse. The 70 active members of the IRC have identified five interest areas including cooling, manufacturing, food processing, high-purity applications, and internal reuse.

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APPENDIX: FEDERAL AND STATE CONTACT INFORMATION

Environmental Protection Agency – Clean Water State Revolving Fund
<http://www.epa.gov/cleanwatersrf>

Alabama Department of Environmental Management
<http://www.adem.state.al.us/programs/water/srf.cnt>

Alaska Department of Environmental Conservation
<http://dec.alaska.gov/water/MuniGrantsLoans/index.htm>

Arizona Water Infrastructure Finance Authority
<http://www.azwifa.gov>

Arkansas Natural Resources Commission
<http://anrc.ark.org/divisions/water-resources-development/water-and-wastewater-funding>

California State Water Resources Control Board
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf

Colorado Water Resources and Power Development Authority
<http://www.cwrpda.com/programs/state-revolving-funds/water-pollution-control-revolving-fund>

Connecticut Department of Energy and Environmental Protection
http://www.ct.gov/deep/cwp/view.asp?a=2719&q=325578&depNav_GID=1654

Delaware Department of Natural Resources and Environmental Conservation
<http://www.dnrec.delaware.gov/fab/Pages/Publicly-Owned-Wastewater-Projects.aspx>

Florida Department of Environmental Protection
<http://www.dep.state.fl.us/water/wff/cwsrf/>

Georgia Environmental Finance Authority
<http://gefa.georgia.gov/water-and-sewer-financing>

Hawaii Department of Health
<http://health.hawaii.gov/wastewater/home/cwsrf/>

Idaho Department of Environmental Quality
<https://www.deq.idaho.gov/water-quality/grants-loans/wastewater-system-construction-loans.aspx>

Illinois Environmental Protection Agency
<http://www.epa.state.il.us/water/financial-assistance/waste-water/index.html>

Indiana Finance Authority
<http://www.in.gov/ifa/srf/>

Iowa State Revolving Fund
<http://www.iowasrf.com/>

Kansas Department of Health and Environment
<http://www.kdheks.gov/muni/>

Kentucky Department for Environmental Protection

<http://water.ky.gov/Funding/Pages/CleanWaterStateRevolvingFund.aspx>

Louisiana Department of Environmental Quality

<http://www.deq.louisiana.gov/portal/tabid/2148/Default.aspx>

Maine Department of Environmental Protection

<http://www.maine.gov/dep/water/grants/srfparag.html>

Maryland Department of the Environment

http://www.mde.state.md.us/programs/Water/QualityFinancing/WaterQualityRevolvingFund/Pages/Programs/WaterPrograms/Water_Quality_Finance/Water_Quality_Fund/index.aspx

Massachusetts Department of Environmental Protection

<http://www.mass.gov/eea/agencies/massdep/water/grants/state-revolving-fund.html>

Michigan Department of Environmental Quality

http://michigan.gov/deq/0,1607,7-135-3307_3515_4143---,00.html

Minnesota Pollution Control Agency

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/watershed-approach/clean-water-revolving-fund.html>

Mississippi Department of Environmental Quality

http://www.deq.state.ms.us/mdeq.nsf/page/SRF_Water_PC_RLP?OpenDocument

Missouri Department of Natural Resources

<http://www.dnr.mo.gov/env/wpp/srf/wastewater-assistance.htm>

Montana Department of Environmental Quality

<http://deq.mt.gov/wqinfo/srf/WPCSRF/default.mcpX>

Nebraska Department of Environmental Quality

<http://www.deq.state.ne.us/Wastewat.nsf/pages/CWSRLF>

Nevada Division of Environmental Protection

<http://ndep.nv.gov/bffwp/srlf01.htm>

New Hampshire Department of Environmental Services

<http://des.nh.gov/organization/divisions/water/wweb/grants.htm>

New Jersey Department of Environmental Protection

http://www.state.nj.us/dep/grantandloanprograms/er_eifp.htm

New Mexico Environment Department

<http://www.nmenv.state.nm.us/cpb/CWSRFPage.htm>

New York Environmental Facilities Corporation

<http://www.efc.ny.gov/default.aspx>

North Carolina Department of Environment and Natural Resources

<http://portal.ncdenr.org/web/wi/cleanwater/srf>

North Dakota Public Finance Authority
<http://www.nd.gov/pfa/srf.html>

Ohio Environmental Protection Agency
<http://www.epa.ohio.gov/defa/EnvironmentalandFinancialAssistance.aspx>

Oklahoma Water Resources Board
<http://www.owrb.ok.gov/financing/loan/cwsrfloans.php>

Oregon Department of Environmental Quality
<http://www.deq.state.or.us/wq/loans/loans.htm>

Pennsylvania Infrastructure Investment Authority
http://www.portal.state.pa.us/portal/server.pt/community/funding_programs/9322/clean_water_%28cwsrf%29/541748

Rhode Island Department of Environmental Management
<http://www.dem.ri.gov/programs/benviron/water/finance/srf/index.htm>

South Carolina Department of Health and Environmental Control
<http://www.scdhec.gov/HomeandEnvironment/BusinessesandCommunities-GoGreen/EnvironmentalGrantsandLoans/StateRevolvingFund>

South Dakota Department of Environment and Natural Resources
<http://denr.sd.gov/dfta/wwf/cwsrf/cwsrfprogram.aspx>

Tennessee Department of Environment and Conservation
<http://www.state.tn.us/environment/water/fund.shtml>

Texas Water Development Board
<http://www.twdb.state.tx.us/financial/programs/CWSRF/index.asp>

Utah Department of Environmental Quality
<http://www.waterquality.utah.gov/FinAst/index.htm>

Vermont Department of Environmental Conservation
<http://www.anr.state.vt.us/dec/fed/FMS.htm>

Virginia Department of Environmental Quality
<http://www.deq.state.va.us/Programs/Water/CleanWaterFinancingAssistance.aspx>

Washington Department of Ecology
<http://www.ecy.wa.gov/programs/wq/funding/funding.html>

West Virginia Department of Environmental Protection
<http://www.dep.wv.gov/WWE/Programs/SRF/Pages/default.aspx>

Wisconsin Department of Natural Resources
<http://dnr.wi.gov/Aid/EIF.html>

Wyoming Office of State Lands and Investments
<https://sites.google.com/a/wyo.gov/osli/grantsloans/loans/clean-water-state-revolving-funds>