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Legislative Options for Financing Water Infrastructure

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Summary

This report addresses several options considered by Congress to address the financing needs of local communities for wastewater and drinking water infrastructure projects and to decrease or close the gap between available funds and projected needs. Some of the options exist and are well established, but they are under discussion for expansion or modification. Other innovative policy options for water infrastructure have been proposed, especially to supplement or complement existing financing tools. Some are intended to provide robust, long-term revenue to support existing financing programs and mechanisms. Some are intended to encourage private participation in financing of drinking water and wastewater projects.

Six options that are reflected in recent legislative proposals, including their budgetary implications, are discussed.

- Increase funding for the State Revolving Fund (SRF) programs in the Clean Water Act and the Safe Drinking Water Act (S. 2532),
- Create a "Water Infrastructure Finance and Innovation Act" Program, or WIFIA (P.L. 113-121 in the 113th Congress; several bills in the 114th Congress that would establish a similar program for water reclamation and reuse projects in western states are H.R. 291/S. 176, S. 1894, and S. 2533),
- Create a federal water infrastructure trust fund (H.R. 4468),
- Create a national infrastructure bank (included in the Administration's FY2017 budget request and H.R. 413, H.R. 625, H.R. 3337, H.R. 3555, S. 268, and S. 1589),
- Lift restrictions on private activity bonds for water infrastructure projects (included in the Administration's FY2017 budget request and H.R. 499), and
- Reinstate authority for the issuance of Build America Bonds (included in the Administration's FY2017 budget request and H.R. 2676).

A number of these options have been examined by congressional committees since the 112th Congress. A pilot program for one of them—WIFIA—was enacted in 2014. Nevertheless, interest in other financing options continues, in part due to long-standing concerns with the costs to repair aging and deteriorated U.S. infrastructure generally, and also in response to events in individual regions and cities, such as Flint, MI, where problems of elevated lead levels in its water distribution system have recently drawn public attention.

Consensus exists among many stakeholders—state and local governments, equipment manufacturers and construction companies, and environmental advocates—on the need for more investment in water infrastructure. There is no consensus supporting a preferred option or policy, and many advocate a combination that will expand the financing "toolbox" for projects. Some of the options discussed in this report may be helpful, but there is no single method that will address needs fully or close the financing gap completely. For example, some may be helpful to projects in large urban or multi-jurisdictional areas, while others may be more beneficial in smaller communities. At least for the near term, communities will continue to rely on the existing SRF programs, tax-exempt governmental bonds, and tax-exempt private activity bonds to finance their water infrastructure needs.

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Introduction

This report examines several legislative options to help finance water infrastructure that currently are receiving attention in Congress. The options discussed here are intended to address capital needs for building and upgrading wastewater and drinking water treatment systems and improving water quality in order to meet requirements under federal law. At issue for Congress is whether the federal government should assist water infrastructure projects and, if so, what form or forms of assistance should be provided.

Localities are primarily responsible for providing water infrastructure services. According to the most recent estimates by states and the Environmental Protection Agency (EPA), funding needs for such facilities total $655 billion over a 20-year period.[1]

Some analysts and stakeholders take issue with such estimates. Some say that EPA's needs estimates are too low because they do not fully reflect types of projects not currently eligible for federal assistance, such as repair and replacement of aging systems, or needs that currently are not well met by existing programs, such as security-related projects; on-site treatment systems in small, dispersed communities; and projects that include mixed elements such as developing and treating new water supply, especially in rural areas. Other estimates much larger than EPA's have been made by a number of groups. For example, the American Water Works Association estimated that investment needs for "buried drinking water infrastructure" total more than $1 trillion over the next 25 years.[2]

However, assessing "need" is complicated by differences in purpose, criteria, and timing, among other issues. One of the major difficulties is defining what constitutes a "need," a relative concept that is likely to generate a good deal of disagreement. In the infrastructure context, funding needs estimates try to identify the level of investment that is required to meet a defined level of quality or service, but this depiction of need is essentially an engineering concept. It differs from economists' conception that the appropriate level of new infrastructure investment, or the optimal stock of public capital (infrastructure) for society, is determined by calculating the amount of infrastructure for which social marginal benefits just equal marginal costs.[3]

Whether the estimates made by states and EPA understate or overstate capital needs, communities face formidable challenges in providing adequate and reliable water infrastructure services. Congress is considering ways to help meet those challenges.

Capital investments in water infrastructure are necessary to maintain high quality service that protects public health and the environment. Capital facilities are a major investment for water and wastewater utilities. Almost all capital projects are debt-financed (not financed on a pay-as-you-go basis from ongoing revenues to the utility). The principal financing tool that local governments use is issuance of tax-exempt municipal bonds—at least 70% of U.S. water utilities rely on municipal bonds and other debt to some degree to finance capital investments. In 2014,

[1] EPA's most recent estimate of capital needs for wastewater infrastructure was published in 2016. See U.S. Environmental Protection Agency, *Clean Watersheds Needs Survey 2012, Report to Congress*, Washington, January 2016. The most recent EPA needs estimate for drinking water infrastructure was issued in 2013. See U.S. EPA, *Drinking Water Infrastructure Needs Survey and Assessment*, EPA-816-R-13-006, April 2013.

[2] American Water Works Association, *Buried No Longer: Confronting America's Water Infrastructure Challenge*, March 2012, http://www.awwa.org/files/GovtPublicAffairs/GADocuments/BuriedNoLongerCompleteFinal.pdf.

[3] For additional discussion, see CRS Report RL31116, *Water Infrastructure Needs and Investment: Review and Analysis of Key Issues*, by (name redacted) and (name redacted) , and archived CRS Report R42018, *The Role of Public Works Infrastructure in Economic Recovery*, by (name redacted), (name redacted), and (name redacted) .

bonds issued for water, sewer, and sanitation projects totaled $34 billion, 10.2% higher than the 2013 volume.[4] Beyond municipal bonds, federal assistance through grants and loans is available for some projects, but is insufficient to meet all needs. Finally, public-private partnerships, or P3s, which are long-term contractual arrangements between a public utility and a private company, provide limited capital financing. While they are increasingly used in transportation and some other infrastructure sectors, P3s are uncommon in the water sector, especially P3s that involve private sector debt or equity investment in a project; most P3s for water infrastructure involve contract operations for operation and maintenance.

Six Policy Options

This report addresses several financing options intended to address overall needs and decrease or close the funding gap. Some of the options exist and are well established, but they are under discussion for extension or modification. Other innovative policy options have been proposed in connection with water infrastructure, especially to supplement or complement existing financing tools. Some are intended to encourage private participation in financing of drinking water and wastewater projects. Some are intended to provide robust, long-term revenue to support existing financing programs and mechanisms. This report analyzes six policy options, including their budgetary implications, related to financing water infrastructure that are reflected in recent legislation.[5]

- *Increase funding for the State Revolving Fund (SRF) programs in the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA).* Some propose increasing federal appropriations for these existing programs, under which federal capitalization grants are provided to states for the purpose of making loans to communities for water infrastructure and other eligible projects.
- *Create a "Water Infrastructure Finance and Innovation Act" Program (WIFIA).* Modeled after the existing Transportation Infrastructure Finance and Innovation Act (TIFIA) program, a WIFIA program is intended to provide federal credit assistance in the form of direct loans and loan guarantees to finance water infrastructure projects.
- *Create a federal water infrastructure trust fund.* Establishing such a fund could help to provide a dedicated source of federal funding for water infrastructure.
- *Create a national infrastructure bank*. This federal entity would provide low-interest loans, loan guarantees, and other types of credit assistance to stimulate investments by states, localities, and the private sector in a variety of infrastructure projects.
- *Lift restrictions on private activity bonds for water infrastructure projects*. This proposal would eliminate the limit on the amount of tax-exempt private activity bonds issued by states and localities to provide financing for privately owned water infrastructure facilities.

[4] Thomson-Reuters, *The Bond Buyer 2015 Yearbook*, p. 140.

[5] This report does not address certain other concepts that have been suggested from time to time to help localities meet financial challenges through better planning and prioritization of water infrastructure. For example, EPA encourages localities to improve management of their infrastructure assets in order to extend current life and reduce need for new infrastructure. Likewise, EPA and municipalities have discussed ways, and EPA issued a policy framework in June 2012, to integrate infrastructure planning and permitting, in order to prioritize investments. See CRS Report R44223, *EPA Policies Concerning Integrated Planning and Affordability of Water Infrastructure*.

- *Reinstate authority for the issuance of Build America Bonds (BABs)*. BABs are taxable bonds for which the U.S. Treasury pays a direct subsidy of the interest costs to the issuer (a state or local government), thus helping finance capital projects with lower borrowing costs.

Since the 112th Congress, a number of these options have been examined by congressional committees, including the House Transportation and Infrastructure Committee and the Senate Environment and Public Works Committee. A pilot program for one of them—WIFIA—was enacted during the 113th Congress and is discussed below. Nevertheless, interest in other financing options continues, in part due to long-standing concerns with the costs to repair aging and deteriorated U.S. infrastructure generally,[6] and also in response to events in individual regions and cities, such as Flint, MI, where problems of elevated lead levels in its water distribution system have recently drawn public attention.[7]

Increase Funding for the SRF Programs

The most prominent source of federal financial assistance for municipal water infrastructure projects is the SRF programs, which can assist a variety of types of projects, including building new and improving existing wastewater treatment and drinking water treatment facilities needed to comply with standards and requirements of the CWA and SDWA. Clean water and drinking water SRFs have been set up in all 50 states, and the programs are widely supported. The programs' principal strengths are that they are well established; project selection criteria are well known; states have considerable flexibility in selecting which projects to assist; and operations and procedures are familiar to stakeholders.

Established by Congress in the 1987 CWA amendments (P.L. 100-4), the clean water SRF program provides seed money to states in the form of capitalization grants, which are matched by states at least by 20%. A state, in turn, uses the combined federal-state monies to provide various types of assistance, including making low- or no-interest loans, refinancing, purchasing or guaranteeing local debt, and purchasing bond insurance. Loan recipients repay assistance to the state, under terms set by the state. In 1996, Congress enacted a similar drinking water SRF program in the SDWA (P.L. 104-182). At the federal level, the SRF programs are administered by EPA, but actual implementation is done by states.

Both programs allow federal, state, and local agencies to leverage limited dollars. According to EPA, because of the funds' revolving nature, the federal investment can result in the construction of up to four times as many projects over a 20-year period as a one-time grant. Further, to the extent that a state uses monies in its SRF to secure bonds and then lends proceeds from the bonds for SRF-eligible activities, loan funding is increased. This financing technique, called leveraging, is used by 28 states and provides funding that exceeds the contribution from federal capitalization grants. In total, leveraged bonds and state contributions have comprised 52% of total SRF investment, while federal capitalization grants have comprised 48%.

From the federal budgetary perspective, the SRF programs are grants, and federal appropriations are fully scored; none of the funds provided to states as capitalization grants are returned to the U.S. Treasury. However, from the local government or utility's perspective, SRFs are loans,

[6] American Society of Civil Engineers, *2013 Report Card for America's Infrastructure*, http://www.infrastructurereportcard.org/.

[7] See CRS Insight IN10446, *Lead in Flint, Michigan's Drinking Water: Federal Regulatory Role*, by (name redacted)

which are repaid to states and are intended to be sources of long-term assistance for water infrastructure projects.

Although the SRF programs are considered to be highly successful in addressing water quality problems, several concerns and criticisms of them have been raised.

First, although the SRF is a loan program, some communities have long favored grants, which the CWA (but not the SDWA) previously provided. The cost burden per customer of capital projects tends to be greater in small communities, and rural and disadvantaged communities prefer grants because many of them lack the tax base needed to repay a loan. Congress has responded to this concern in several ways, including providing earmarked grants in appropriations acts until recently and authorizing a separate CWA grant program for "wet weather" projects to address sewer overflow problems (although it never received appropriations). Further, Congress specified in recent appropriations acts (such as EPA's FY2016 appropriation, P.L. 114-113) that states shall use a portion of both programs' capitalization grants to provide subsidy in the form of principal forgiveness, negative interest loans, or grants.[8] Critics of the latter point out that, to the extent SRF assistance is partially subsidized and not fully repaid, the corpus of the state's loan fund is diminished, along with its capacity to make future loans.

Second, the potential for leveraging to increase overall funding is limited, because nearly half of the states do not use that financing technique.

Third, some stakeholders—especially large cities—contend that the SRF programs favor small and medium communities. According to this view, the programs do not benefit large projects, because in many cases assistance to individual projects is limited to $20 million. However, the general validity of that concern is unclear, because where limits are imposed, this results from state policies, not federal. Neither the CWA nor the SDWA requires a state to limit SRF assistance, and states establish their own criteria for selecting projects, which are identified annually in Intended Use Plans (IUPs). In order to extend aid to more communities, some states may adopt dollar limits by rule or practice, but this is not universally the case.

Fourth, the CWA restricts most SRF assistance to municipal, intermunicipal, interstate, and state agencies, thus generally barring private utilities from the program. Some in the private sector contend that this restriction provides an advantage to publicly owned utilities. Modifying the CWA in that manner would conform the clean water program to its counterpart in the Safe Drinking Water Act. However, critics of providing federal assistance to private utilities contend that the credit subsidies have the potential of offering windfalls to those companies. Bills to allow clean water SRFs to assist nonpublic entities have been proposed. In 2014, Congress enacted amendments to the SRF provisions of the CWA to allow privately owned projects to be eligible for SRF assistance for certain types of projects, but not all (Section 5003 of P.L. 113-121).

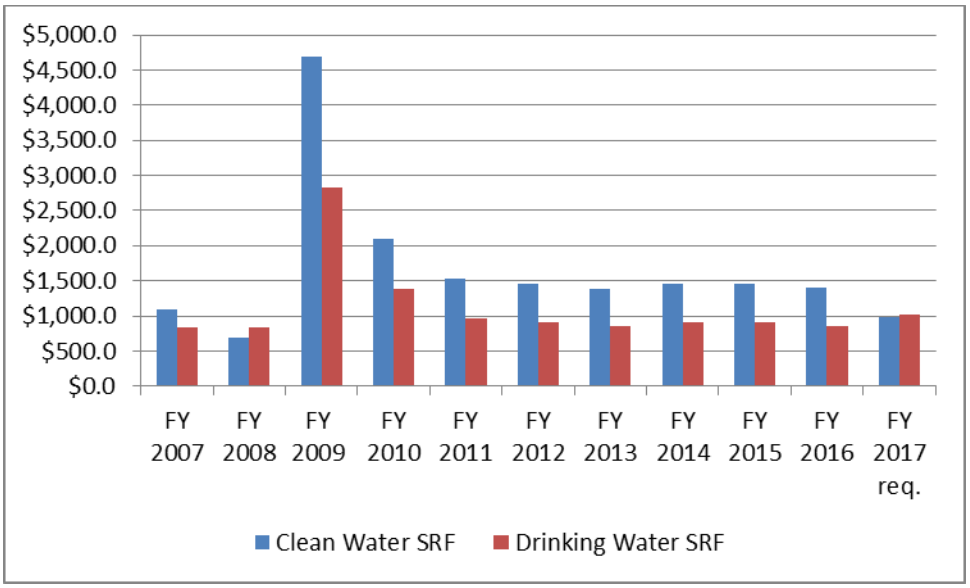
Fifth, some are critical that Congress imposes restrictions on states' use of SRF capitalization grants in order to achieve broad policy objectives beyond clean and safe water. Examples include Buy America or Davis-Bacon prevailing wage requirements. According to this view, by mandating that all funded projects meet certain non-water quality requirements, or that states use a minimum percentage of funds for "green" infrastructure such as energy efficiency projects (a requirement in recent appropriations acts), Congress adds to projects costs and limits state flexibility.

[8] The SDWA allows but does not require states to provide subsidized assistance from drinking water SRFs. Similar language was added to the CWA in 2014 (P.L. 113-121).

Perhaps the most critical concern is the fact that federal capitalization grants are entirely subject to appropriations, which generally have been flat or declining for more than a decade, as shown in **Figure 1**. The FY2009 exception to this trend reflects temporary funding under the American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5). The President's FY2016 budget request for capitalization grants for the two SRF programs was 2.3% below the $2.36 billion total appropriated in FY2015. Similarly, the FY2017 request for the two programs totals $2.0 billion and is nearly 13% below the FY2016-appropriated amount.

Figure 1. SRF Appropriations, FY2007-FY2017 Request

(millions of nominal dollars)



Source: Compiled by Congressional Research Service from appropriations acts and FY2017 Congressional Budget Justification for EPA.

Notes: FY2009 funding included supplemental appropriations under the American Recovery and Reinvestment Act of $4.0 billion for the clean water SRF and $2.0 billion for the drinking water SRF.

Securing SRF appropriations has become more difficult in recent years, under general deficit reduction pressures and specific discretionary spending caps imposed by the debt agreement embodied in the Budget Control Act of 2011 (BCA, P.L. 112-25), as amended by the American Taxpayer Relief Act of 2012 (ATRA, P.L. 112-240), the Bipartisan Budget Act of 2013 (BBA 2013, P.L. 113-67), and the Bipartisan Budget Act of 2015 (BBA 2015, P.L. 114-74).[9]

In a multi-step process, the BCA, as amended, set caps on discretionary budget authority (appropriations) that began in FY2012 and an automatic spending reduction process that began in FY2013, which together will reduce the deficit by roughly $2 trillion over the FY2012-FY2021 period. The spending caps essentially limit the amount of spending through the annual appropriations process and affect decisions by Congress and the President concerning spending on clean water and drinking water SRF capitalization grants (and most other discretionary programs in the budget, as well). Cap levels are enforced through a process of spending cuts called sequestration that are automatically triggered if discretionary cap levels are breached. This

[9] For full discussion, see CRS Report R42506, *The Budget Control Act of 2011 as Amended: Budgetary Effects*, by (name redacted) and (name redacted).

sequestration process has not been used to date, as Congress has enacted budgets with spending amounts that are consistent with the cap levels.

Further, the BCA requires that if the appropriations process does not result in spending levels that adhere to the BCA cap levels and the cap levels are breached, a specified enforcement process—also called sequestration—follows. That is, in addition to the deficit reduction achieved through the statutory caps on discretionary spending, the BCA put in place an automatic process in the event a special joint committee failed to reach an agreement on spending reductions. The BCA "Super Committee" announced in November 2011 that it had failed to reach such an agreement. As a result, a $1.2 trillion automatic spending reduction process was triggered, beginning in January 2013, to continue through FY2021. ATRA, BBA 2013, and BBA 2015 modified this process, easing the required reductions in defense and non-defense spending from FY2013 through FY2017 (i.e., raising the discretionary spending caps for those years), but extending the mandatory sequestration process through FY2025.[10] Although some discretionary programs are exempt from this sequester process, the SRF programs are not.

While the BCA caps represent the upper limit of spending that will meet the act's deficit reduction targets, some Members of Congress favor even lower levels of spending than the BCA allows. Some would like to redistribute reductions in order to protect some accounts, especially defense. Congress has debated whether to maintain scheduled spending cuts in future years. As noted above, Congress has increased the discretionary spending caps on three occasions and could debate whether to modify the caps again—by increasing or reducing them. Overall, no matter how much support there may be for more SRF spending, Congress faces many competing needs, priorities, and difficult choices.

Authorization of appropriations for clean water SRF capitalization grants expired in FY1994 and for drinking water SRF capitalization grants in FY2003. Congress has considered water infrastructure funding issues several times since the 107th Congress, including provisions for more robustly funded SRFs, but until recently, no legislation other than appropriations had been enacted. In 2014, Congress enacted a number of amendments to Title VI of the CWA, the SRF provisions, as part of P.L. 113-121. The 2014 amendments, for example, expanded the types of projects that are eligible for SRF assistance and imposed "Buy American" requirements on SRF recipients. However, the amendments did not reauthorize appropriations for clean water SRF capitalization grants, nor have appropriations for drinking water SRF capitalization grants been reauthorized.

In the 114th Congress, legislation has been introduced to reauthorize capitalization grants for both the CWA and SDWA SRF programs. S. 2532 would authorize $34.9 billion over a five-year period for the CWA program (increasing from $5.2 billion in FY2016 to $9.1 billion in FY2020) and $21.2 billion over a five-year period for the SDWA program (increasing from $3.1 billion in FY2016 to $5.5 billion in FY2020). Reportedly, the intention of the bill is to restore SRF funding to 2009 spending levels, with adjustment for inflation.[11]

Legislation reported by congressional committees typically is "scored" by the Congressional Budget Office (CBO) for the effects on discretionary and mandatory, or direct, spending and by the Joint Committee on Taxation (JCT) for effects on revenues. Discretionary spending is the part

[10] Ibid. Also see CRS Report R42972, *Sequestration as a Budget Enforcement Process: Frequently Asked Questions*, by (name redacted).

[11] Another bill in the 114th Congress, S. 268, would appropriate $6 billion annually for five years to each of the CWA SRF and SDWA SRF programs, but it would not reauthorize appropriations for either program. Funds under this bill would come from "funds of the Treasury not otherwise appropriated."

of federal spending that lawmakers generally control through annual appropriation acts. In general, legislation that authorizes future appropriations for discretionary programs, by itself, does not increase federal deficits or decrease surpluses. Any subsequent discretionary appropriation to fund the authorized activity would affect the federal budget and would be subject to spending limits under a budget resolution or the BCA.

Enacting legislation that only *authorizes* future discretionary appropriations would not result in an increase in CBO's projection of federal deficit under its baseline assumptions and would not implicate pay-as-you-go rules or the Statutory Pay-As-You-Go Act (P.L. 111-139), or PAYGO, which generally require that direct spending and revenue legislation not increase the federal deficit or that the spending be offset. However, authorizing legislation that affects direct spending or federal revenues is subject to budgetary rules. Direct spending is provided in or controlled by authorizing laws, generally continues without any annual legislative action, and includes spending authority provided for in such programs as Medicare and unemployment compensation. Direct spending also includes many offsetting collections, such as Medicare premiums, which are treated as negative spending instead of as revenues.

Perspective on how legislative proposals to reauthorize SRF capitalization grants likely would be scored is provided by CBO's report on H.R. 1262 in the 111th Congress, which would have authorized appropriations totaling $13.8 billion for clean water SRF capitalization grants. The CBO report stated that certain provisions of the bill would affect direct spending and revenues, and it cited the JCT's estimates that by increasing funds available under the clean water SRF, H.R. 1262 would result in some states leveraging SRF grants by issuing additional tax-exempt bonds to finance water infrastructure projects. The JCT estimated that those additional bonds would result in reductions in federal revenue totaling $700 million over 10 years.[12] To offset the reduced revenue, H.R. 1262 included offsetting receipts resulting from an increase in per-ton duties imposed on vessels arriving at U.S. ports from foreign ports. These receipts were intended to offset direct spending. The significance of needing to include the offsetting receipts in the legislation is that, if states were to increase leveraging and issue more tax-exempt bonds—such as might also occur if the state volume cap on private activity bonds were lifted (see below)—additional offsetting receipts likely would be required in SRF reauthorization legislation.

Create a "Water Infrastructure Finance and Innovation Act" Program (WIFIA)

One option for supporting investment in water infrastructure is the creation of a program modeled on the Transportation Infrastructure Finance and Innovation Act (TIFIA) Program. As the name suggests, only transportation projects are eligible for TIFIA assistance, but operation of the TIFIA program has generated interest in creating a similar program for water infrastructure, a so-called Water Infrastructure Finance and Innovation Act (WIFIA) Program. The 113th Congress enacted legislation to create a pilot WIFIA program (P.L. 113-121), as described in this section.

[12] See U.S. Congress, House Committee on Transportation and Infrastructure, *Water Quality Investment Act of 2009*, report to accompany H.R. 1262, 111th Congress, 1st session, H.Rept. 111-26, pp. 49-54. Similarly, the JCT estimated that H.R. 5320 in the 111th Congress, authorizing capitalization grants for the drinking water SRF program, would reduce federal revenues by $337 million over 10 years by increasing the use of tax-exempt bonds by states. Pay-as-you-go procedures would apply because enacting the legislation would affect revenues. See U.S. Congress, House Committee on Energy and Commerce, *Assistance, Quality, and Affordability Act of 2010*, report to accompany H.R. 5320, 111th Cong., 2nd sess., July 1, 2010, H.Rept. 111-524, pp. 20-21.

TIFIA, enacted in 1998 as part of the Transportation Equity Act for the 21st Century (TEA-21; P.L. 105-178), was reauthorized in 2012 in the Moving Ahead for Progress in the 21st Century Act (MAP-21; P.L. 112-141). TIFIA provides federal credit assistance up to a maximum of 49% of project costs in the form of secured loans, loan guarantees, and lines of credit (23 U.S.C. 601 et seq.). Transportation projects costing at least $50 million (or at least $25 million in rural areas) are eligible for TIFIA financing.[13] Projects must also have a dedicated revenue stream to be eligible for credit assistance. TIFIA can provide senior or subordinated debt. With the enactment of MAP-21, funding authorized for the TIFIA program increased from $122 million annually to $750 million in FY2013 and $1 billion in FY2014. However, the Fixing America's Surface Transportation Act (FAST Act, P.L. 114-94), enacted in 2015, reduced the amount available to support loans and other credit assistance under TIFIA. Under the FAST Act, the annual amount is $275 million each of FY2016 and FY2017, $285 million in FY2018, and $300 million in each of FY2019 and FY2020.

TIFIA assistance is provided based on a project's eligibility. One of the key eligibility criteria is the creditworthiness of the project. To be eligible, a project's senior debt obligations and the federal credit instrument must receive an investment-grade rating from at least one nationally recognized credit agency. The TIFIA assistance must also be determined to have several beneficial effects: fostering a public-private partnership, if appropriate; enabling the project to proceed more quickly; and reducing the contribution of federal grant funding. Other eligibility criteria include satisfying planning and environmental review requirements and being ready to contract out construction within 90 days after the obligation of assistance.

Since the beginning of the program in 1998, TIFIA has provided assistance to 58 projects, mostly in the form of direct loans. Loan amounts ranged from $40 million to $1.9 billion. Total credit assistance provided over the life of the program amounts to $22.8 billion, as of February 2016. The amount of credit assistance is much larger than the appropriated amount over this period because the appropriated funds need only cover the subsidy cost of the program (this point is discussed further below). Projects involving TIFIA financing amount to $83 billion in total costs.[14] TIFIA typically provides financing to fill a gap in a much larger financial package that sometimes involves private equity and private debt.

The 113th Congress agreed to include a WIFIA pilot program as part of H.R. 3080, the Water Resources Reform and Development Act of 2014 (WRRDA).[15] Title X of Senate-passed S. 601 included a five-year pilot program, while House-passed H.R. 3080 included no similar provisions. Under the legislation as enacted (P.L. 113-121), Title V, Subtitle C, authorizes a five-year WIFIA pilot program. EPA is authorized to provide credit assistance (secured loans or loan guarantees) for drinking water and wastewater projects, and the U.S. Army Corps of Engineers is authorized to provide similar assistance for water resource projects, such as flood control or hurricane and storm damage reduction.

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[13] The threshold for Intelligent Transportation Systems projects is $15 million.

[14] Federal Highway Administration, "Projects Financed by TIFIA," http://www.transportation.gov/tifia/projects-financed.

[15] For additional discussions, see CRS Report R43315, *Water Infrastructure Financing: Proposals to Create a Water Infrastructure Finance and Innovation Act (WIFIA) Program*, by (name redacted) . A standalone measure to create a WIFIA program also has been introduced in the 113th Congress. S. 335 would empower the Administrator of EPA to provide credit assistance to drinking water and wastewater infrastructure projects. P.L. 113-121 also includes amendments to some of the water infrastructure provisions of the CWA, in particular the SRF provisions, but these amendments do not reauthorize SRF capitalization grants. For discussion see CRS Report R42883, *Water Quality Issues in the 113th Congress: An Overview*, by (name redacted) .

EPA and the Corps each were authorized a total of $175 million over five years (beginning with $20 million for each agency in FY2015 and increasing to $50 million in FY2019) to provide assistance. Projects must be $20 million or larger in costs to be eligible for credit assistance, except that projects in rural areas (population 25,000 or less) must have eligible projects costs of $5 million or more.

Activities eligible for assistance under the legislation include project development and planning, construction, acquisition of real property, and carrying costs during construction. Categories eligible for assistance by EPA include projects at wastewater treatment and community drinking water facilities, projects for enhanced energy efficiency of a public water system or wastewater treatment works, repair or rehabilitation of aging wastewater and drinking water systems, desalination or water recycling projects, or a combination of eligible projects. The Secretary of the Army or EPA Administrator, as appropriate, are to determine eligibility based on a project's creditworthiness and dedicated revenue sources for repayment. Selection criteria include the national or regional significance of the project, extent of public or private financing in addition to WIFIA assistance, use of new or innovative approaches, the amount of budget authority required to fund the WIFIA assistance, the extent to which a project serves regions with significant energy development or production areas, and the extent to which a project serves regions with significant water resources challenges.

From the federal perspective, an advantage of TIFIA is that it can provide a large amount of credit assistance relative to the amount of budget authority provided. The volume of loans and other types of credit assistance that TIFIA can provide is determined by the size of congressional appropriations and calculation of the subsidy cost.[16] The subsidy cost largely determines the amount of money that can be made available to project sponsors.[17] Currently in the TIFIA program, the average project subsidy cost is approximately 10%. Proponents of a WIFIA argued that loans for water projects could be even less risky than transportation projects, because water rates are an established repayment mechanism, thus the subsidy cost would be lower and the amount of credit assistance higher (per dollar of budget authority).[18] However, analysts note that, even with stable rate mechanisms, some communities and water utilities have recently experienced problems with borrowing and bond repayments, so repayment of a WIFIA loan is not a certainty.[19]

One of the main perceived benefits of the TIFIA program is that it provides capital at a low cost to the borrower. Moreover, TIFIA financing is often characterized as patient capital because loan repayment does not need to begin until five years after substantial completion of a project, the loan can be for up to 35 years from substantial completion, and the amortization schedule can be flexible. The WIFIA legislation likewise is intended to provide these benefits. As total TIFIA

[16] According to the Federal Credit Reform Act of 1990, the subsidy cost is the "estimated long-term cost to the Government of a direct loan or loan guarantee, calculated on a net present value basis, excluding administrative costs" (104 Stat. 1388-610). The Federal Credit Reform Act of 1990 was enacted as part of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508).

[17] Douglas J. Elliott, *Budgeting for Credit Programs: A Primer*, Center for Federal Financial Institutions, April 2004, at http://www.coffi.org/pubs/Budgeting%20Primer.pdf.

[18] U.S. Congress, House Committee on Transportation and Infrastructure, Subcommittee on Water Resources and Environment, *Testimony of Aurel Arndt*, Hearing on Innovative Funding of Water Infrastructure of the United States, 112th Cong., 2nd sess., February 28, 2012, http://republicans.transportation.house.gov/Media/file/TestimonyWater/2012-02-28-Arndt.pdf.

[19] LaShell Stratton-Childers, "Navigating a Rough Terrain," *Water Environment and Technology*, January 2012, pp. 24-29. This article describes the November 2011 bankruptcy filing by Jefferson County, AL, in part resulting from the county's inability to cover debts for wastewater system upgrades.

assistance cannot exceed 49% of project costs, it is intended to encourage nonfederal and private sector financing. WIFIA, with a similar 49% cap on assistance (and an overall cap on all federal assistance of 80% of a project's cost), would likely encourage some nonfederal financing, including from the private sector, but how much is unclear.

A major source of debate among opponents and proponents has been and continues to be potential adverse impacts of WIFIA on funds for the Clean Water Act and Safe Drinking Water Act SRF programs. Several groups representing state environmental officials opposed the WIFIA provisions in the 113th Congress because, they contended, it could result in reduced spending on the SRF programs, which are capitalized by federal appropriations. States are concerned that WIFIA would likely be funded through congressional appropriations to the detriment of the SRF programs.[20] On the other hand, water utility groups argued that WIFIA would complement, not harm, existing SRF programs. In their view, WIFIA will provide a new funding opportunity for large water infrastructure projects that are unlikely to receive SRF assistance.[21] In part to address concerns about impacts of WIFIA on the SRF programs, P.L. 113-121 gave state infrastructure financing authorities a "right of first refusal" to provide SRF funds for a project when EPA receives an application for WIFIA assistance.

Another perceived benefit of the TIFIA program from the federal perspective is that it potentially limits the federal government's exposure to default by relying on market discipline through creditworthiness standards and the encouragement of private capital investment. WIFIA supporters see the same benefits for it. On the other hand, the Congressional Budget Office argues that the federal government underestimates the cost of providing credit assistance under programs like TIFIA.[22] This is because it excludes "the cost of market risk—the compensation that investors require for the uncertainty of expected but risky cash flows. The reason is that the FCRA [Federal Credit Reform Act] requires analysts to calculate present values by discounting expected cash flows at the interest rate on risk-free Treasury securities (the rate at which the government borrows money). In contrast, private financial institutions use risk-adjusted discount rates to calculate present values."[23]

Enacting a WIFIA program raised another federal budgetary and revenue issue. The initial CBO cost estimate for S. 601, as approved by the Environment and Public Works Committee, concluded that the WIFIA provisions would cost $260 million over five years. In addition, it would result in certain revenue loss to the U.S. Treasury, thus, pay-as-you-go procedures would apply to the bill. CBO cited the Joint Committee on Taxation's (JCT) estimate that enactment of the bill would reduce revenues by $135 million over 10 years, because states would be expected to issue tax-exempt bonds in order to acquire additional funds not covered by WIFIA assistance.[24]

[20] Letter from Association of Clean Water Administrators, Association of State Drinking Water Administrators, and Environmental Council of the States, et al. to Honorable Bill Shuster, Chairman, Committee on Transportation and Infrastructure, and Honorable Nick J. Rahall, II, Ranking Member, Committee on Transportation and Infrastructure, October 24, 2013.

[21] Letter from American Water Works Association, Association of Metropolitan Water Agencies, and Water Environment Federation to Honorable Barbara Boxer, Chairman, Committee on Environment and Public Works, September 9, 2013.

[22] For more on this topic generally, see Congressional Budget Office, *Fair-Value Accounting for Federal Credit Programs*, Issue Brief, March 2012, http://www.cbo.gov/sites/default/files/cbofiles/attachments/03-05-FairValue_Brief.pdf.

[23] Congressional Budget Office, "Estimating the Value of Subsidies for Federal Loans and Loan Guarantees," August 2004, p. 2, http://www.cbo.gov/ftpdocs/57xx/doc5751/08-19-CreditSubsidies.pdf.

[24] Congressional Budget Office, Cost Estimate for S. 601, Water Resources Development Act of 2013, April 9, 2013, p. 6.

To avoid the pay-as-you-go problem in the bill, the committee added a provision to S. 601 to prohibit recipients of WIFIA assistance from issuing tax-exempt bonds for the non-WIFIA portions of project costs. CBO re-estimated the bill and concluded that, because the change would make the WIFIA program less attractive to entities, most of whom rely on tax-exempt bonds for project financing, the cost of the bill would be $200 million less over five years but would have no impact on revenues, because the demand for federal credit would be lower without the option of using tax-exempt financing.[25] P.L. 113-121 retained the bar on tax-exempt financing for WIFIA-assisted projects. Thus, the apparent solution to one problem in the legislation—potential revenue loss—raised a different kind of problem for entities seeking WIFIA credit assistance.

After enactment, the restriction was widely criticized by potential users of WIFIA assistance. In their view, the bond financing restriction, together with the 49% cap on WIFIA assistance in the law, make it very difficult to finance needed projects, which rely heavily on tax-exempt financing for costs not covered by WIFIA or other funds. Congress responded to this concern with a provision in the 2015 surface transportation legislation, the FAST Act (P.L. 114-94), that repealed the tax-exempt bond financing restriction on WIFIA assistance.[26]

Although the WIFIA program has not yet been implemented,[27] interest in using WIFIA as a model for other infrastructure financing programs is apparent. For example, several legislative proposals in the 114th Congress would establish a similar program for water reclamation and reuse projects in western states. These proposals, referred to as "Reclamation for WIFIA," or RIFIA, are included in H.R. 291/S. 176 (the Water in the 21st Century Act), S. 1894 (the California Emergency Drought Relief Act of 2015), and S. 2533 (California Long-Term Provisions for Water Supply and Short-Term Provisions for Emergency Drought Relief Act).

Create a Federal Water Infrastructure Trust Fund

One of the most common criticisms of the SRF programs, that capitalization grants are subject to annual appropriations, is the focus of proposals to create a federal water infrastructure trust fund modeled after existing mechanisms for other types of infrastructure such as the airport and airways trust fund and the highway trust fund. A trust fund supported by dedicated revenues would be intended to provide sustainable and reliable long-term financing of water infrastructure projects. Proponents contend that trust fund expenditures would not impact the federal deficit (assuming that revenues are at least as large as program spending), because they would be drawn from collections that are dedicated by law for specified purposes. Whether the mechanism is created as a trust fund *per se* is not the critical issue,[28] but, rather, the critical issue is creation of a dedicated revenue stream and how it is recorded in the budget.

This idea is not new: legislation was introduced in the House in 1993 to support clean water infrastructure by creating a fund that would accrue $6 billion annually in revenues through a

[25] Congressional Budget Office, Cost Estimate for S. 601, Water Resources Development Act of 2013, April 17, 2013, p. 7.

[26] See CRS Report R43315, *Water Infrastructure Financing: The Water Infrastructure Finance and Innovation Act (WIFIA) Program*, for additional discussion.

[27] Congress has not yet appropriated funds to cover the subsidy cost of the program, so neither EPA nor the Corps has begun making loans. The FY2017 budget requests $15 million in appropriations for EPA to implement WIFIA. Ibid.

[28] Whether a particular fund is designated in law as a trust fund is, in many cases, arbitrary. In the federal budget, there is no substantive difference between a trust fund (such as the Highway Trust Fund) and a special fund (e.g., the Nuclear Waste Disposal Fund) or a revolving fund (such as the Postal Service Fund). All receive collections that are dedicated by law for specific purposes. Office of Management and Budget, "Budget of the United States Government: Analytical Perspectives, Fiscal Year 2017," p. 381.

combination of user fees and excise taxes. In 1996, EPA issued a report, requested by Congress, on alternative financing options for water infrastructure, including a trust fund, and a 2009 Government Accountability Office (GAO) report, also requested by Congress, similarly assessed options to generate revenue for a clean water trust fund.[29] Legislation has been introduced in several congresses, including H.R. 4468 in the 114th Congress. Issues associated with alternative financing options have been explored by the House Transportation and Infrastructure Water Resources and Environment Subcommittee in hearings since 2005.

The legislative intent is to create a dedicated revenue source that would be counted as an offsetting receipt or collection and would be recorded in the budget as reducing or netting out outlays for water infrastructure projects.[30] Proponents contend that such proposals would be deficit-neutral (again assuming that new revenue sources match or exceed program outlays) and would be a consistent and protected source of revenue to help states replace, repair, and rehabilitate critical water infrastructure facilities. Both the 1996 EPA and 2009 GAO reports identified a number of issues that need to be addressed in establishing a clean water trust fund, including how it should be administered, whether it would be used to fund the clean water SRF or a separate program, what type(s) of financial assistance should be provided for projects (grants or loans), and what activities should be eligible for funding. These design issues are necessary, but they are relatively straightforward to resolve legislatively.

The most difficult issues conceptually and politically concern how to generate the revenues. Clean water lacks as clear a basis for charging or taxing a set of users as exists for either the highway or aviation trust funds. As GAO observed, "each funding option poses various implementation challenges, including defining the products or activities to be taxed, establishing a collection and enforcement framework, and obtaining stakeholder support."[31] Consensus on these issues has been elusive. Revenue options proposed in the past include excise taxes on water-based beverages, pharmaceutical products, and items disposed in wastewater (such as cosmetics and toilet paper); fees on industrial discharge of toxic pollutants; or an excise tax on the active ingredients of pesticides and fertilizers. In the 114th Congress, H.R. 4468 would support a trust fund through revenue from voluntary labeling of consumer products. Under the proposal, businesses could choose to place a label on their products indicating support for clean water, contributing $0.03 for each unit bearing the label to the trust fund. In turn, the trust fund would be used to fund CWA and SDWA SRF capitalization grants.

From a budgetary perspective, there are no hurdles to enacting legislation to collect revenues for a water infrastructure trust fund. That is, assuming that the policy issues of who pays and at what levels are resolved, budget rules do not prohibit enacting a measure to collect new revenues. However, most programs with dedicated revenues, including most trust funds, are not set up to be spent without authorization or appropriation by Congress, making it difficult to assure that all revenues and interest will be spent each year for water infrastructure purposes. Accomplishing the objectives laid out by proponents of the clean water trust fund would involve complicated steps:

[29] U.S. Environmental Protection Agency, *Alternative Funding Study: Water Quality Fees and Debt Financing Issues, Final Report to Congress*, June 1996; and U.S. Government Accountability Office, *Clean Water Infrastructure, A Variety of Issues Need to Be Considered When Designing a Clean Water Trust Fund*, GAO-09-657, May 2009. Hereinafter, 2009 GAO Report.

[30] Offsetting collections are usually authorized to be spent for specified purposes and generally are available for use when collected, without further action by Congress. Offsetting receipts may or may not be designated for a specific purpose. If designated for a particular purpose, in some cases the offsetting receipts may be spent without further action by Congress. When not so designated, offsetting receipts are credited to the general fund. See "Budget of the United States Government: Analytical Perspectives, Fiscal Year 2017, Offsetting Collections and Offsetting Receipts," p. 213.

[31] 2009 GAO report, p. 13.

creating dedicated revenue that is classified in the budget so that it will net out the outlays, preventing spending on the program from being reduced by the congressional authorization and appropriation process, and setting up the program to ensure that it does not count against congressional budget rules such as PAYGO and discretionary spending caps.

In the past, Congress has sought to create a mechanism to guarantee spending for some existing infrastructure trust funds. For example, since 2000, legislation authorizing appropriations from the Airport and Airway Trust Fund included a provision making it out of order in the House or Senate to consider legislation that fails to use all aviation trust fund receipts and interest annually. The 2012 FAA reauthorization act, P.L. 112-95, modified this guarantee to restrict the amount made available for each fiscal year to 90% of the receipts of the aviation trust fund plus interest credited for the respective year as estimated by the Secretary of the Treasury.[32] Further, since 1998, House rules effectively created funding guarantees for transportation activities within the highway and mass transit categories by making any legislation that would cause spending to be less than the amount authorized subject to a point of order. This rule, in clause 3 of Rule XXI, was amended at the beginning of the 112th Congress to allow an appropriations measure to reduce spending for highway and mass transit activities below the authorized level, as long as those funds were not made available for a purpose not authorized in the surface transportation act.[33] These two examples illustrate the difficulty of assuring that trust fund revenues that are subject to appropriations are spent fully. Moreover, spending guarantees can still be trumped by broader budget policy goals (such as deficit reduction) or by the spending priorities of appropriators—that is, points of order can be waived.

Conceptually, creating a mechanism to protect spending could be done by amending the Balanced Budget and Emergency Deficit Control Act of 1985 to create a separate budget category for water infrastructure programs. Funding from within this category could not be used to, in effect, offset increased spending elsewhere in the budget, thereby removing any incentive for restraining the spending of available trust fund revenues. However, this option reduces the appropriations committees' influence on spending, which they could be expected to vigorously resist, and also would involve amending the Budget Act, thus requiring the acquiescence of the House and Senate budget committees.

Create a National Infrastructure Bank

Another idea for improving the nation's investment in infrastructure is the creation of a national infrastructure bank.[34] An infrastructure bank is a government-established entity that provides credit assistance to sponsors of infrastructure projects. An infrastructure bank can take many different forms, such as an independent federal agency, a federal corporation, a government-sponsored enterprise, or a private-sector, nonprofit corporation. Under most infrastructure bank proposals, the bank would be authorized to help finance the construction or reconstruction of

[32] This restriction in the bill was described in the House Transportation Committee's report, H.Rept. 112-29, pt. 1, as necessary to "mitigate the effect of over-optimistic revenue projections in the future." The 90% restriction would provide room for error in revenue estimates. Once the actual level of revenues for the trust fund is known, an adjustment would be made in the amount actually made available from the trust fund for that year, according to the committee's report.

[33] See CRS Report R41926, *House Rules Changes Affecting the Congressional Budget Process Made at the Beginning of the 112th Congress*, by (name redacted)

[34] For more on this topic, see CRS Report R43308, *Infrastructure Banks and Debt Finance to Support Surface Transportation Investment*, by (name redacted) and (name redacted) , and archived CRS Report R42115, *National Infrastructure Bank: Overview and Current Legislation*, by (name redacted), (name redacted), and (name redacted) .

infrastructure in several areas including energy, water and wastewater, telecommunications, and transportation.

According to proponents, a national infrastructure bank would provide several major benefits for infrastructure projects, including water and wastewater capital projects. An infrastructure bank might help facilitate water infrastructure projects by providing large amounts of financing on advantageous terms, including low interest rates and long maturities. This might encourage investment that would otherwise not take place, particularly in large, expensive projects whose costs are borne locally but whose benefits are regional or national in scope. On the other hand, an infrastructure bank may not be the lowest-cost means of achieving that goal. The Congressional Budget Office has pointed out that a special entity that issues its own debt would not be able to match the lower interest and issuance costs of the U.S. Treasury.[35]

Whether providing financing on advantageous terms by a national infrastructure bank would lead to an increase in the total amount of capital devoted to infrastructure investment is unclear. Another purported advantage of certain types of infrastructure banks is access to private capital, such as pension funds and international investors. These entities, which are generally not subject to U.S. taxes, may be uninterested in purchasing the tax-exempt bonds that are traditionally a major source of project finance, but might be willing to make equity or debt investments in infrastructure in cooperation with a national infrastructure bank. If this shift were to occur, however, it could be to the detriment of existing investment, as the additional investment in infrastructure may be drawn from a relatively fixed amount of available investment funds.

Another putative benefit of a national infrastructure bank is that it might improve project selection. A frequent criticism of current public infrastructure project selection is that it is often based on factors such as geographic equity and political favoritism instead of the demonstrable merits of the projects themselves.[36] In many cases, funding goes to projects that are presumed to be the most important, without a rigorous study of the costs and benefits. Proponents of an infrastructure bank assert that it would select projects based on economic analyses of all costs and benefits.[37]

Selecting projects through an infrastructure bank has possible disadvantages, as well as advantages. First, it would likely direct financing to projects that are the most viable financially rather than those with the greatest social benefits. Unless there were set-asides for particular types of projects, water and wastewater projects would be in competition with infrastructure projects across a wide spectrum of sectors. Second, financing projects through an infrastructure bank might serve to exclude small urban and rural areas because infrastructure banks would likely focus on large, expensive projects that tend to be located in major urban centers. This may be true even without a minimum project cost threshold set in law. A third possible disadvantage is that a national infrastructure bank may shift some decision making from the state and local level to the federal level.

[35] Congressional Budget Office, "Issues and Options in Infrastructure Investment," May 2008, p. 28, at http://www.cbo.gov/ftpdocs/91xx/doc9135/05-16-Infrastructure.pdf.

[36] Everett Ehrlich, *A National Infrastructure Bank: A Road Guide to the Destination*, Policy Memo, Progressive Policy Institute, October 2010, at http://www.progressivefix.com/wp-content/uploads/2010/09/09.2010-Ehrlich_A-National-Infrastructure-Bank.pdf.

[37] The extent to which this would be done varies depending on the specific proposal. If Congress were to direct the bank to consider factors such as job creation and poverty reduction, then those requirements might constrain its ability to assist the most economically viable projects.

Once established, a national infrastructure bank might help accelerate worthwhile infrastructure projects by bearing more of the financial risk. Large projects are often slowed by funding and financing problems given the degree of risk. These large projects might also be too large for financing from a state infrastructure bank or from a state revolving loan fund. Moreover, even with a combination of grants, municipal bonds, and private equity, mega-projects often need another source of funding to complete a financial package. Financing is also sometimes needed to bridge the gap between construction and when the project generates revenues. Although a national infrastructure bank might help accelerate projects over the long term, it will likely take several years for a bank to be fully functioning after enactment.

One attraction of national infrastructure bank proposals is the potential to encourage significant nonfederal infrastructure investment over the long term for a relatively small amount of federal budget authority. Ignoring administrative costs, an appropriation of $10 billion for the infrastructure bank could provide $100 billion of credit assistance if the subsidy cost were similar to that of the TIFIA program (see above).[38]

The federal government already has a number of programs to support water and wastewater infrastructure projects. But a national infrastructure bank could provide assistance to infrastructure projects that are currently too large to be financed using existing mechanisms. The creation of an infrastructure bank might provide another mechanism for financing drinking water and wastewater projects, but would set those projects in competition with projects in energy, transportation, and telecommunications. A national infrastructure bank is probably most like the existing TIFIA program.[39] Hence, the creation of both a national infrastructure bank in addition to the WIFIA pilot program that Congress created in 2014 would likely be duplicative.

Bills to establish a national infrastructure bank or a bank-like entity have been introduced in several recent congresses. All include water and wastewater facilities as eligible projects. Bills in the 114th Congress include: the Partnership to Build America Act (H.R. 413); the Infrastructure 2.0 Act (H.R. 625); the Building and Renewing Infrastructure for Development and Growth in Employment Act (the BRIDGE Act, S. 1589); the National Infrastructure Development Bank Act of 2015 (H.R. 3337 and S. 268); and the Jobs! Jobs! Jobs! Act of 2015 (subtitle E of H.R. 3555). An infrastructure bank proposal also is included in the Administration's FY2017 budget.

H.R. 413 and H.R. 625 would create a wholly owned government corporation called the American Infrastructure Fund (AIF). It would be headed by a board of trustees whose mission would be to operate the AIF to be a low-cost provider of bond guarantees, loans, and equity investments for projects sponsored or owned by state or local governments or submitted by state or local governments on behalf of nonprofit infrastructure project provided by private parties. Eligible projects would include transportation, energy, water, communications, or educational facilities. At least 35% of its assistance is to be provided to projects for which at least 10% of the project financing comes from private debt or equity. The bank would be initially capitalized with proceeds from $50 billion in American Infrastructure Bonds to be issued by the U.S. Treasury.

[38] As noted earlier, according to the Federal Credit Reform Act of 1990, the subsidy cost is the "estimated long-term cost to the Government of a direct loan or loan guarantee, calculated on a net present value basis, excluding administrative costs" (104 Stat. 1388-610).

[39] U.S. Congress, House Committee on Transportation and Infrastructure, Subcommittee on Highways and Transit, *Testimony of Geoffrey S. Yarema*, Hearing on National Infrastructure Bank: More Bureaucracy and More Red Tape, 112th Cong., 1st sess., October 12, 2011.

Proponents estimate that the AIF would leverage the $50 billion at a 15:1 ratio to provide up to $750 billion in assistance.[40]

The proposed BRIDGE Act, S. 1589, would establish a government-owned Infrastructure Financing Authority (IFA) to facilitate investments in transportation, water, and energy infrastructure projects that are economically viable, in the public interest, and of regional or national significance. Funded projects must be at least $50 million in size, or $10 million in size in rural areas. The authority would provide loans and loan guarantees and would receive initial seed funding of up to $10 billion, which supporters say could incentivize private sector investment and make possible up to $300 billion in total project investment.[41] IFA funding would be limited to 49% of a project's costs.

A bill that is similar to the BRIDGE Act is H.R. 3555. The wholly owned government corporation created by the infrastructure bank provisions of this bill would be called the American Infrastructure Financing Authority (AIFA). AIFA would be governed by seven presidentially appointed board members. AIFA would be authorized to provide loans and loan guarantees to eligible transportation, water, and energy infrastructure projects. To be eligible for assistance, a project would have to cost at least $100 million, or at least $25 million in rural areas. Loans from the bank may not exceed 50% of eligible costs. The bank would be capitalized with a $10 billion appropriation.

H.R. 3337 and S. 268 would create a National Infrastructure Development Bank (NIDB), governed by seven presidentially appointed directors. The NIDB would be able to issue public benefit bonds (PBBs) to help finance infrastructure, as well as make loans and loan guarantees. Funded projects could include transportation, telecommunications, energy, and environmental infrastructure. The bank would be capitalized by Congress with $5 billion annually for five years. Among the criteria for evaluating projects for assistance from the NIDB would be the extent to which assistance will maximize private investment in the project while providing a public benefit.

In addition, the FY2017 budget renews a request made in previous Obama Administration budgets to create an independent National Infrastructure Bank (NIB). According to budget documents, the NIB would provide direct and guaranteed loans for transportation, water, and energy infrastructure projects. Interest rates on loans would be indexed to U.S. Treasury rates, with maturity up to 35 years. The NIB would finance no more than 50% of total costs of any project. Funding for the bank would initially require $167 million to cover subsidy cost and administrative expenses, which the Administration estimates would support $1.2 billion in loan activity. It also projects that the NIB would increase the federal deficit by $1.98 billion over the initial five years of activity and $7.7 billion over 10 years.[42]

Separate from its proposal for a NIB, the Administration's FY2017 budget proposes to establish a new federal credit program within the Treasury Department to provide direct loans to infrastructure projects developed through a public-private partnership (P3). Eligible projects are to include water, transportation, energy, and broadband sectors, as well as certain social infrastructure (e.g., educational facilities). The program is estimated to provide $15 billion in

[40] A similar bill in the 113th Congress was H.R. 2084. See, Rep. John Delaney, *Information on the Partnership to Build America Act*, Dec. 8, 2014, http://delaney.house.gov/information-on-congressman-delaneys-infrastructure-bill.

[41] A similar bill in the 113th Congress was S. 1716. See, Senator Mark Warner, "Senator Warner Leads Bipartisan Group in Introducing Infrastructure Legislation," Nov. 14, 2013, http://www.warner.senate.gov/public/index.cfm/pressreleases?ContentRecord_id=8627b0e2-cdd5-4fba-baa0-35cc2cd6f6bf.

[42] Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 2017, Appendix*, pp. 1317-1318; Office of Management and Budget, *The Budget for Fiscal Year 2017*, Table S-9, p. 147.

direct loans over 10 years with no subsidy, or cost, to taxpayers. It is intended to reduce the financing cost gap between P3s and traditional project procurement, thus encouraging the public sector to evaluate potential P3 arrangements.[43]

Lift Private Activity Bond Restrictions on Water Infrastructure Projects

Water infrastructure can be owned and operated by the private sector, a governmental entity, or through a so-called partnership between a government and a private entity. A partnership could involve a private entity investing in water infrastructure and receiving a market rate of return on that investment. This investment could be an equity share (part ownership) or some other agreement that provides a stream of revenue generated by the facility. Or, the partnership could be the government issuing tax-exempt debt on behalf of the private entity with so-called "private activity bonds."

Among the options to modify the existing framework for federal assistance for investment in water infrastructure, one option for greater federal involvement includes expanding the availability of tax-exempt financing to private entities, for example, private activity bonds.

Generally, under current law, privately owned water furnishing and water treatment facilities are not eligible for tax-exempt financing. The tax code, however, does provide that privately owned water furnishing facilities that (1) are operated by a governmental unit or (2) charge rates that are approved by a political subdivision of the host community, can issue qualified private activity bonds (PABs) which are tax-exempt.[44] Most qualified PABs, including bonds for water furnishing and water treatment facilities, are subject to a state volume limit.[45] In 2016, the volume cap is either the greater of $100 multiplied by the state's population, or $302.88 million. As determined by the Internal Revenue Service, the total volume cap for the 50 states, the District of Columbia, and Puerto Rico is $32.5 billion.

Traditional tax-exempt bonds provide for lower borrowing costs for state and local governments indirectly through a federal tax exemption to investors for the interest income received on the bonds. The opportunity to use bonds whose interest payments are exempt from federal income taxation confers a considerable subsidy to bond issuers and to investors who buy the bonds. The FY2017 budget estimates that the federal tax expenditure for "water, sewage, and hazardous waste disposal facilities" will be $3.1 billion over the 2016 to 2020 budget window and $7.7 billion between 2016 and 2025.[46]

The private activity bond volume limit noted above originated in the Deficit Reduction Act of 1984 (P.L. 98-369). The limit was implemented because "Congress was extremely concerned with the volume of tax-exempt bonds used to finance private activities."[47] The limit and the list of qualified activities were both modified again under the Tax Reform Act of 1986 (TRA 1986, P.L.

[43] Office of Management and Budget, *The Budget for Fiscal Year 2017*, p. 1018.

[44] Sections 142(a)(4), 142(a)(5), 142(e), and 146 of the Internal Revenue Code (I.R.C.).

[45] Two types of private activity bonds are outside the annual volume limit, those issued by 501(c)(3) organizations like hospitals and those issued by private universities. For more on private activity bonds, see archived CRS Report RL31457, *Private Activity Bonds: An Introduction*, by (name redacted).

[46] Office of Management and Budget, "Budget of the United States Government: Analytical Perspectives, Fiscal Year 2017 Tax Expenditures," Table 14-1.

[47] U.S. Congress, Joint Committee on Taxation, General Explanation of the Revenue Provisions of the Deficit Reduction Act of 1984, 98th Cong., 2nd sess. (Washington: GPO, 1984), p. 930.

99-514). At the time of the TRA 1986 modifications, the Joint Committee on Taxation identified the following specific concerns about tax-exempt bonds issued for private activities:[48]

- the bonds represent "an inefficient allocation of capital";
- the bonds "increase the cost of financing traditional governmental activities";
- the bonds allow "higher-income persons to avoid taxes by means of tax-exempt investments"; and
- the bonds contribute to "mounting [federal] revenue losses."

The inefficient allocation of capital arises from the economic fact that additional investment in tax-favored private activities will necessarily come from investment in other public projects. For example, if bonds issued for water infrastructure did not receive special tax treatment, some portion of the bond funds could be used for other government projects such as schools or other public infrastructure.

The greater volume of tax-exempt private activity bonds then leads to the second Joint Committee on Taxation concern listed above, higher cost of financing traditional government activities. Investors have limited resources; thus, when the supply of tax-exempt bond investments increases, issuers must raise interest rates to lure them into investing in existing government activities. In economic terms, issuers raising interest rates to attract investors is analogous to a retailer lowering prices to attract customers. The higher interest rates make borrowing more expensive for issuers.

The final two points are less important from an economic efficiency perspective but do cause some to question the efficacy of using tax-exempt bonds to deliver a federal subsidy. Tax-exempt interest is worth more to taxpayers in higher brackets; thus, the tax benefit flows to higher income taxpayers, which leads to a less progressive income tax regime.

The revenue loss generated by tax-exempt bonds also expands the deficit. A persistent budget deficit ultimately leads to generally higher interest rates as the government competes with private entities for scarce investment dollars. Higher interest rates further increase the cost of all debt-financed state and local government projects.

The implicit assumption of several recent proposals is that the current cap is binding, preventing the investment in needed water infrastructure projects. Proponents argue that the opportunity for more private entities to meet the requirements for tax-exempt bond financing may induce additional infrastructure investment. What is unclear is how much new investment will be undertaken with PABs if these restrictions were relaxed. Underlying the estimates of potential new investment is demand for new water infrastructure. Following is a discussion of the current use of PABs for water infrastructure.

Demand for the use of PAB capacity for water infrastructure has been relatively low. The Internal Revenue Service (IRS) reports that for the 2011 tax year, new money bonds (in contrast to refunding bonds) were issued for 22 private water furnishing, sewage, and solid waste disposal facilities projects accounting for $453 million of the $40.5 billion of new money long-term, tax-exempt PABs issued that year (about 1% of total new money PABs). An additional $1.7 billion in

[48] U.S. Congress, Joint Committee on Taxation, General Explanation of the Tax Reform Act of 1986, 100th Cong., 1st sess. (Washington: GPO, 1987), p. 1151.

PABs were spent refunding 29 prior bond issues for water, sewage, and solid waste disposal facilities.[49]

The IRS data also provide information on the issuance by state. In 2010, 30 states did not commit any volume capacity to water, sewage, and solid waste disposal facilities. Two states, California (13 projects) and Texas (6 projects), combined for $792 million of the $2.7 billion in new money issuance in that year. The limited number of states using PABs may reflect lack of demand for privately owned water infrastructure or may reflect the relative size of water projects limiting the use of PABs. The average PAB new money amount issued for water, sewer, and solid waste was $57.8 million in 2010, whereas the average PAB new money issuance for all types of eligible bond purposes was smaller at $25.2 million. The remainder included qualified mortgage revenue bonds, which typically have a smaller average issue size. In 2011, nearly one-half of the states did not commit any volume capacity to water, sewage, or solid waste disposal facilities.

Private entities also invest in water infrastructure beyond partnerships with governments through PABs. For example, the largest investor-owned U.S. water and wastewater utility company, American Water, reported investing $1 billion in water infrastructure capital in 2014 and projected that it will make $6.0 billion in capital investment through 2019.[50] Private entities like American Water use a mix of current revenue and debt, including PABs, corporate debt, and equity investment, to finance this capital spending.

The President's FY2017 budget request (like several previous budgets) supports eliminating the volume cap for PABs for water infrastructure. This proposal would create a new category of tax-exempt qualified PABs called "Qualified Public Infrastructure bonds" (QPIBs) that would be eligible to finance categories of infrastructure projects that now are subject to bond volume cap, including water, sewage, and solid waste disposal facilities. The proposal would make the bond volume cap requirement inapplicable to QPIBs. Treasury estimates that this proposal would increase the federal deficit by $4.9 billion between 2017 and 2026.[51]

A bill in the 114th Congress proposes to permanently exclude water infrastructure from the volume cap (H.R. 499).[52] As the data above suggest, excluding PABs for water infrastructure from state volume caps would likely generate marginally more investment in water infrastructure. The private entities that already have used PABs in conjunction with other financial tools would likely increase the use of PABs. What is unclear, however, is if the expanded use of PABs would necessarily reflect substantially new infrastructure investment or just change the mix of financing tools employed for already planned projects. If the latter, then the potential revenue loss may not achieve the intended policy objective of increasing investment in water infrastructure.

The proposed PAB expansion may also be a limited success as many communities have chosen government provision of water infrastructure. In 2011, long-term tax-exempt PAB issuance for water, sewage, and solid waste disposal facilities totaled $2.2 billion. By comparison, approximately $28 billion in governmental bonds (i.e., non-PAB tax-exempt bonds) were issued for 1,244 water, sewer, and sanitation projects in 2011.[53] The reliance on government provision

[49] Internal Revenue Service, "Municipal Bonds, 2011," *Statistics of Income Bulletin*, summer 2014, Table 7.

[50] American Water, 2014 Annual Report, pp. 46, 50.

[51] Office of Management and Budget, *The Budget for Fiscal Year 2017*, Table S-9, p. 150.

[52] In the 112th Congress, the Senate passed surface transportation legislation (S. 1813) that included a provision to lift the volume cap for six years, but this provision was not included in the enacted bill (P.L. 112-141).

[53] Thomson-Reuters, *The Bond Buyer 2012 Yearbook*, p. 159; *The Bond Buyer 2015 Yearbook*, p. 140.

may reflect market conditions that make private provision infeasible or public preference for government owned and operated water infrastructure.

Reinstate Authority for Issuance of Build America Bonds (BABs)

Another option under discussion to modify the existing framework for federal assistance for water infrastructure investment is to expand or extend the use of Build America Bonds (BABs).

BABs were created by the American Recovery and Reinvestment Act of 2009 (ARRA).[54] The volume of BABs was not limited (unlike qualified Private Activity Bonds) and the purpose was constrained only by the requirement that "the interest on such obligation would (but for this section) be excludible from gross income under section 103."[55] Thus, BABs could have been issued for any purpose that would have been eligible for traditional tax-exempt bond financing *other than private activity bonds*, thus they did not allow for private sector participation (unlike PABs). The authority to issue BABs expired on December 31, 2010.

BABs are modeled after the "taxable bond option," which was first considered in the late 1960s. In 1976, the following was posited by the then president of the Federal Reserve Bank in Boston, Frank E. Morris:

> The taxable bond option is a tool to improve the efficiency of our financial markets and, at the same time, to reduce substantially the element of inequity in our income tax system which stems from tax exemption [on municipal bonds]. It will reduce the interest costs on municipal borrowings, but the benefits will accrue proportionally as much to cities with strong credit ratings as to those with serious financial problems.[56]

One benefit of the BAB program was that it tapped into a broader market for investors without regard to tax liability (such as pension funds, which typically do not invest in tax-exempt bonds). Traditional tax-exempt bonds have a narrow class of investors, generally consisting of individuals and mutual funds. BABs offered an issuer a credit equal to 35% of the interest rate established between the buyer and issuer of the bond.[57] The Treasury Department estimated that the $181 billion in BABs issued from April 2009 through December 2010 will allow state and local governments to save an estimated $20 billion in borrowing costs, in present value savings, as compared to issuing traditional tax-exempt bonds.[58]

One option would be to extend BABs to investment in privately owned water infrastructure. Many of the disadvantages cited for PABs identified earlier could be avoided, such as the windfall gain for high-income investors and the economic inefficiency of using a third party to deliver a federal subsidy.[59] The President's FY2017 budget suggests that the BAB program "… has a potentially more streamlined tax compliance framework focusing directly on governmental

[54] For more, see CRS Report R40523, *Tax Credit Bonds: Overview and Analysis*, by (name redacted).

[55] 26 U.S.C. §54AA(d)(1)(A). BAB proceeds that use the direct payment options are to be used only for capital expenditures.

[56] Frank E. Morris, "The Taxable Bond Option," *National Tax Journal*, vol. 29, no. 3, September 1976, p. 356.

[57] Note that the issuer credit is an outlay of the federal government. This simple example does not consider issuance and underwriter fees.

[58] U.S. Department of the Treasury, "Treasury Analysis of Build America Bonds Issuance and Savings," May 16, 2011, p. 11, http://www.treasury.gov/initiatives/recovery/Documents/BABs%20Report.pdf.

[59] Researchers have determined that the federal government subsidy for BABs "… disadvantages individual U.S. taxpayers, who are the main holders of municipal bonds, and benefits new entrants in the municipal bond market." New entrants would include international investors and pension funds. See Ang, Andrew, Vineer Bhansali, and Yuhan Xing, "Build America Bonds," *National Bureau of Economic Research, Working Paper 16008*, May 2010.

issuers who benefit from the subsidy, as compared with tax-exempt bonds and tax credit bonds, which involve investors as tax intermediaries."[60] The partner government or water authority would "issue" bonds at the low rate and pass through the value of the subsidy to the private entity. The private entity would own and operate the water infrastructure.

In the 114th Congress, H.R. 2676 has been introduced to extend and expand a modified version of BABs. The President's FY2017 budget (like requests since the FY2012 budget) proposes to reinstate BABs—now to be called America Fast Forward Bonds—as an alternative to traditional tax-exempt bonds at a 28% credit rate. The Administration's proposal would allow eligible use of America Fast Forward Bonds to include financing all qualified PAB program categories. Treasury estimates that the proposal would increase the federal deficit by $71 billion over 10 years, but the 28% federal subsidy level is intended to be approximately revenue neutral, relative to the estimated future federal tax expenditures for tax-exempt bonds.

According to CBO, the interest subsidy of BABs would be recorded in the federal budget as outlays, like other payments to state and local governments. At the same time, by substituting taxable for tax-exempt bonds, the program would increase taxable interest income. CBO analyzed a similar proposal in the FY2013 budget and estimated that it would increase subsidy payments to state and local governments, thus boosting federal outlays, by $70 billion over 10 years and raise revenues by $63 billion, with a net effect of increasing the cumulative deficit by $7 billion.[61]

Conclusion

Consensus exists among many stakeholders—state and local governments; equipment manufacturers, construction companies, and engineers; and environmental advocates—on the need for more investment in water infrastructure. Many in these varied groups support one or more options for doing so. There is no consensus supporting a preferred option or policy, and many advocate a combination that will expand the financing "toolbox" for projects. Some of the options discussed in this report may be helpful in addressing financing problems, but there is no single method or "silver bullet" that will address needs fully or close the financing gap completely. For example, some such as a WIFIA or a national infrastructure bank may be helpful to projects in large urban or multi-jurisdictional areas, while others such as expanded SRF programs may be more beneficial in smaller communities. Even with enactment of the WIFIA pilot program in P.L. 113-121, at least for the near term, communities will continue to rely on the existing SRF programs, tax-exempt governmental bonds, and available tax-exempt private activity bonds to finance their water infrastructure needs.

The Obama Administration's has expressed support for the SRFs and has endorsed excluding water infrastructure PABs from the state volume cap and reinstating Build America Bonds, as reflected in its budget requests.

[60] U.S. Department of the Treasury, "General Explanations of the Administration's Fiscal Year 2017 Revenue Proposals," February 2016, p. 71.

[61] U.S. Congressional Budget Office, *An Analysis of the President's 2013 Budget*, April 2012, p. 10.

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