



**E. SCOTT PRUITT
ADMINISTRATOR**

February 14, 2018

Mr. Thomas Liu
Acting Chairman
Environmental Financial Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Dear Mr. Liu:

I am writing in response to your November 28, 2017, letter advising me of the work completed by the U.S. Environmental Protection Agency's Environmental Financial Advisory Board in response to the February 2017 request by the Office of Water. We greatly appreciate the board's effort to analyze and recommend funding strategies to repair and replace decentralized wastewater systems.

The board's report is especially useful since it provides both an analysis of existing financing mechanisms and identifies potential new funding programs with recommendations for successful implementation. We appreciate the examples provided in the report illustrating how the Clean Water State Revolving Fund has successfully funded decentralized systems. We will share these ideas with other SRF programs for their consideration. The Pooled Loan and Linked Deposit Loan Programs are innovative financing mechanisms that we intend to further explore. Lastly, the "PACE"/Tax Lien Financing Program and Subsidized Warranty Program recommendations are interesting and creative concepts that we will share with our decentralized wastewater system stakeholders and partners to evaluate further.

We appreciate the unique perspectives offered by the board and the financing recommendations provided to address the challenges in this area. Again, thanks to you and the other members of the Environmental Financial Advisory Board for the work that you engage in on behalf of the EPA.

Respectfully yours,

A handwritten signature in black ink, appearing to read "Scott Pruitt", with a long horizontal flourish extending to the right.

E. Scott Pruitt

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The Honorable E. Scott Pruitt
Administrator
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460

Dear Administrator Pruitt:

The Environmental Financial Advisory Board (EFAB) is pleased to present you with our report, "*Funding Strategies for Decentralized Wastewater Systems*." This report presents EFAB's analysis and recommendations on funding strategies for the repair and replacement of such systems which are essential to protect public health.

EFAB was issued a charge from the US EPA's Office of Water in February 2017 to identify existing and prospective funding strategies that better address the challenge of funding the repair or replacement of failing decentralized wastewater systems. More specifically, EFAB was asked to address the following:

1. Can co-funding arrangements and credit mechanisms be designed that can distribute risk among participants such that more robust and sustainable mechanisms can be developed that might involve a cross section of public, private and/or not for profit entities?
2. Consistent with establishing a dedicated revenue stream for Clean Water SRF loans, as required by the Clean Water Act, are there minimum credit standards that can be identified that would allow SRFs to expand lending activities for such projects? In conjunction with, or in the absence of, other funding resources?"

To address this charge, we analyzed this matter both within EFAB as well as with outside experts. Our report was prepared in two parts. In the first part, we analyzed existing funding programs which include: (i) information provided by the Council of Infrastructure Financing Authorities, the national non-profit association representing public environmental infrastructure financing agencies, (ii) a review of existing funding programs (in certain states) and (iii) a discussion of various direct as well as indirect financing programs.

In the second part, we recognize that decentralized wastewater system funding needs across the nation are sizeable and that these needs may not be met just from existing states/municipality financing programs (including any grant and/or private monies). Generally, the new financing programs presented and our accompanying recommendations pertain to low cost loan programs that: (i) can be successfully implemented, (ii) provide a significant amount of increased funding capacity and (iii) achieve a relatively lower cost for homeowners when compared to their current alternative cost of funds. In our analysis, we have also highlighted the advantages of each financing recommendation as well as addressed potential challenges and concerns.

Our new financing programs and recommendations consist of the following:

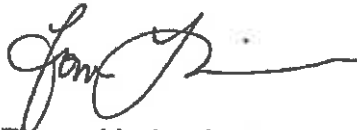
Innovative and Cost Effective Environmental Protection

1. *Direct Financing through the State Revolving Fund Program* – on a tax-exempt or taxable basis with the municipalities aggregating the homeowner loans and providing a general obligation pledge or other security pledge to meet any personal/homeowner credit concerns;
2. *Water Infrastructure Pooled Loan Financing Program* – which is a new funding structure/program and can provide not only a significant amount of funding capacity but also a relatively lower cost for homeowners;
3. *“PACE”/Tax Lien Financing Program* – which is a voluntary contractual assessment that can address any personal/homeowner credit concerns and provide a proven and highly-secured financing structure;
4. *Linked Deposit Loan Program* – which provides a simple funding structure that minimizes the states’/municipalities’ administrative cost/burden and achieves a relatively lower cost for homeowners; and
5. *Subsidized Warranty Program* – which in conjunction with other financing programs may reduce the homeowners’ ongoing maintenance expenses as well as future replacement costs.

Please note that our recommendations are not mutually exclusive to each other and should also be considered in conjunction with existing programs from a co-funding perspective (i.e., loan-based and/or grant-based programs, as discussed in this report) to maximize funding capacity as well as further reduce the costs for homeowners, by reducing the interest cost on the loan and/or forgiving a portion of the loan principal. Finally, we recognize that the “best” recommendation to address the nation’s decentralized wastewater system challenges may also vary by state/municipality and circumstances (e.g., state’s/municipalities’ experience with leveraged bond financing, availability of personnel and monies for program administration, amount of needed funding on an overall and/or annual basis, state/local legal restrictions, etc.).

We are pleased to provide you with the detailed results of our analysis and recommendations in the enclosed report. We hope that you and the Agency find our review, observations and specific recommendations valuable and we thank you for the opportunity to assist EPA with this important charge.

Sincerely,



Thomas Liu, Interim Chair
Environmental Financial Advisory Board

Enclosure

cc: Mr. Michael Shapiro, Acting Assistant Administrator
Office of Water (OW)

Environmental Financial Advisory Board

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Mike Shapiro

Funding Strategies for Decentralized Wastewater Systems

November 2017

This report has not been reviewed for approval by the U.S. Environmental Protection Agency; and hence, the views and opinions expressed in the report do not necessarily represent those of the Agency or any other agencies in the Federal Government.

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EFAB REPORT: FUNDING STRATEGIES FOR DECENTRALIZED WASTEWATER SYSTEMS

November 2017

**EFAB's Analysis and Recommendations Regarding
Existing and Prospective Funding Strategies for the Repair
or Replacement of
Failing Decentralized Wastewater Systems**

I. EXECUTIVE SUMMARY

In February 2017, U.S. EPA's Office of Water provided a charge to "identify existing and prospective funding strategies that better address the challenge of funding the repair or replacement of failing decentralized wastewater systems." More specifically, EFAB was asked to address the following:

1. "Can co-funding arrangements and credit mechanisms be designed that can distribute risk among participants such that more robust and sustainable mechanisms can be developed that might involve a cross section of public, private and/or not for profit entities?"
2. Consistent with establishing a dedicated revenue stream for Clean Water SRF loans, as required by the Clean Water Act, are there minimum credit standards that can be identified that would allow SRFs to expand lending activities for such projects? In conjunction with, or in the absence of, other funding resources?"

To address this charge, we analyzed this matter both within EFAB as well as with outside expert consultants. Our report was prepared in two parts. In the first part, we analyzed existing funding programs which include: (i) information provided by the Council of Infrastructure Financing Authorities – which represents most State Revolving Fund (SRF) programs in the nation; (ii) a review of existing funding programs – in certain states (i.e., Maryland's Bay Restoration Fund Program, Massachusetts' Title V Community Septic Management Program and Tax Credit Program and Maine's Septic System Repair and Replacement Removal Program); and (iii) a discussion of various direct as well as indirect financing programs.

In the second part, we recognize that decentralized wastewater system funding needs across the nation are sizeable and that these needs may not be met just from existing states/municipality financing programs (including any grant and/or private monies). Generally, the new financing programs and recommendations presented relate to low cost loan programs that: (i) can be successfully implemented; (ii) provide a significant amount of increased funding capacity; and (iii) achieve a relatively lower cost for homeowners when compared to their current alternative cost of funds. In this analysis, we have also highlighted the advantages of each financing recommendation as well as addressed potential challenges and concerns.

Our new financing programs and recommendations consist of the following:

1. **Direct Financing through the State Revolving Fund (SRF) Program** – on a tax-exempt or taxable basis with the municipalities aggregating the homeowner loans and providing a general obligation pledge or other security pledge to meet any personal/homeowner credit concerns;
2. **Water Infrastructure Pooled Loan Financing Program** – which is a new funding structure/program and can provide not only a significant amount of funding capacity but also a relatively lower cost for homeowners;
3. **"PACE"/Tax Lien Financing Program** – which is a voluntary contractual assessment that can address any personal/homeowner credit concerns and provide a proven and highly-secured financing structure;

4. *Linked Deposit Loan Program* – which provides a simple funding structure that minimizes the states’/municipalities’ administrative cost/burden and achieves a relatively lower cost for homeowners; and
5. *Subsidized Warranty Program* – which in conjunction with other financing programs may reduce the homeowners’ ongoing maintenance expenses as well as future replacement costs.

Please note that our recommendations are not mutually exclusive to each other and should also be considered in conjunction with any existing programs from a co-funding perspective (i.e., loan-based and/or grant-based programs, as discussed in this report) to maximize funding capacity as well as further reduce the costs for homeowners, by reducing the interest cost on the loan and/or forgiving a portion of the loan principal. Finally, we recognize that the “best” recommendation to address the nation’s decentralized wastewater system matter may also vary by state/municipality and circumstances (e.g., state’s/municipalities’ experience with leveraged bond financing, availability of personnel and monies for program administration, amount of needed funding on an overall and/or annual basis and state/local legal restrictions).

II. BACKGROUND/US EPA CHARGE

EFAB received the following charge from US EPA’s Office of Water:

“Identify existing and prospective funding strategies that better address the challenge of funding the repair or replacement of failing decentralized wastewater systems

Failing decentralized wastewater systems present a chronic challenge to homeowners, regulators and funding entities. More than 20 percent of US households rely on individual onsite systems (septic tanks) or small community cluster systems to treat their wastewater. It is estimated that between 10 and 20 percent of these systems are malfunctioning as a result of inadequate management. In addition, more than half of the existing systems are more than 30 years old. EPA and 18 partner organizations have signed a Memorandum of Understanding (MOU) to engage in efforts to improve public awareness of the need to operate and maintain decentralized wastewater systems.¹ Most systems are located in rural or suburban areas and homeowners and communities often do not have the capital or access to capital necessary for repairs. The biggest barriers to repair, replacement, or upgrade of decentralized systems is the limited access to funding and the challenge of affordability. Limited funding access is, in part, related to the high costs of repair and replacement relative to household income that raises credit concerns on the part of prospective lenders. Affordability also presents challenges to government policymakers to make available funds that do not require repayment.

Questions that arise:

¹ Under this MOU, the signatory parties commit to work collaboratively to improve the overall performance and management of decentralized systems. Please see additional information at <https://www.epa.gov/septic/2014-decentralized-wastewater-management-mou>

1. Can co-funding arrangements and credit mechanisms be designed that can distribute risk among participants such that more robust and sustainable mechanisms can be developed that might involve a cross section of public, private and/or not for profit entities?
2. Consistent with establishing a dedicated revenue stream for Clean Water SRF loans, as required by the Clean Water Act, are there minimum credit standards that can be identified that would allow SRFs to expand lending activities for such projects? In conjunction with, or in the absence of, other funding resources?

More specifically, "The Office of Water requests that EFAB identify financing strategies for decentralized wastewater infrastructure that provide access to funding for low income/poor credit communities and/or households. Options should include mechanisms that involve public infrastructure funding programs such as the Clean Water State Revolving Fund, products private banks can consider making available to their customers, partnership options that may include public, private and/or not-for-profits, municipal bonds and other innovative ideas that would provide financing mechanisms in states, counties, underlying municipalities and communities generally that seek to implement financing programs for decentralized wastewater infrastructure."

III. EFAB ANALYSIS AND RECOMMENDATIONS

A. REVIEW OF EXISTING FUNDING PROGRAMS

To illustrate the various funding programs that exist to fund decentralized wastewater systems, we contacted the Council of Infrastructure Financing Authorities (CIFA) regarding what information they had on this topic. In speaking with a CIFA representative, we summarized select state level programs as well as other direct and indirect financing programs at the Federal, national and local level. The analysis below is meant to provide a general understanding of the different types of existing funding programs and is not a complete listing of all available funding programs.

1. COUNCIL OF INFRASTRUCTURE FINANCING AUTHORITIES' INFORMATION

In May 2017, we contacted the Council of Infrastructure Financing Authorities (CIFA) for information regarding decentralized wastewater systems. At the time, CIFA was seeking to build out the CIFA web portal to provide information to share with their membership and subsequently sent out a survey on this matter to its membership, which includes most of the 28 leveraged SRF programs in the US. The survey asked for responses to the following questions:

1. *General description of any decentralized wastewater/septic system financing program in your state*
2. *Year this program started*
3. *Funding source*
4. *Total amount of available funding*
5. *Total number and dollar value of projects funded*
6. *Program features (amount, duration, low-income, elderly, etc.)*
7. *Website reference*

Unfortunately, as of this report date, only 3 SRF programs have responded to CIFA on this survey – see “Council of Infrastructure Financing Authorities’ Information” in Appendix A. However, since CIFA wants this information for their newly established web portal, they will continue to build this database. Subsequent data from the CIFA members can be requested by contacting Rick Farrell, CIFA Executive Director, at 202-547-7886 or rfarrell@madisonassoc.com. (Additional SRF program information and discussion is provided below in the “Massachusetts Title V Community Septic Management Program and Tax Credit Program” section and the U.S. EPA Water Infrastructure and Resilience Finance Center (WIRFC) and the U.S. EPA Water Infrastructure Finance and Innovation Act (WIFIA) Program” section).

2. MARYLAND’S BAY RESTORATION FUND PROGRAM

The State of Maryland (the State) determined that nitrogen pollution was a serious problem facing the Chesapeake Bay (the Bay). Discharges from large wastewater treatment plants (WWTP) accounted for about 20 percent of the nutrient pollution reaching the Bay. In 2004 and under Maryland Senate Bill 320, the State established the Bay Restoration Fund Program (BRF) to create a dedicated fund with a goal of reducing nutrient pollution to the waters of the State. The State concluded that upgrading the 67 largest WWTPs serving the State would reduce nitrogen loading to the Bay and its tributaries. In addition to upgrading the largest WWTPs, the State decided to also address nutrient pollution from septic systems across the State. The main goal of the BRF was to provide grants to local governments and other owners of WWTPs to reduce nutrient pollution to the Bay and, secondly, to the Atlantic Bays of Maryland. Another goal of the BRF was to provide grants to homeowners for installation and upgrades of septic systems with the Best Available Technology (BAT) for removal of nitrogen.

To finance the BRF, the enabling statute established a bay restoration fee (the Fee) for users of wastewater facilities, septic systems, and sewage holding tanks. The Fee prior to January 1, 2005, for residential users was \$2.50 per month, and for commercial/industrial users was \$2.50 per month for each equivalent dwelling unit not exceeding 3,000 equivalent dwelling units, and \$1.25 per for each equivalent dwelling unit exceeding 3,000 equivalent dwelling units and not exceeding 5,000 equivalent dwelling units up to a \$120,000 annual maximum. The Fee was subsequently increased on January 1, 2005 to \$5.00 per month for residential users, and \$5.00 per month for commercial/industrial users for each equivalent dwelling unit not exceeding 2,000 equivalent dwelling units up to a \$120,000 annual maximum. Subject to the approval by the Maryland Department of the Environment, a fee waiver exists for certain users including residential users that demonstrate substantial financial hardship as well as certain legal municipal entities, including counties, municipal corporations, bi-county or multi-county agencies, housing authorities, school boards, community colleges, any other unit of the county or municipal corporation and local fire departments. On July 1, 2030, the new fee rate of \$5.00 per month/household will revert back to the prior fee rate of \$2.50 per month/household.

With regards to fees collected specifically from users of an onsite sewage disposal system or holding tank, the law requires that a separate account be established, and 60 percent collected from these specific users be deposited into a separate account to be used for failing systems and holding tanks located in the Chesapeake and Atlantic Coastal Bays Critical Areas, and then to failing systems that the State determines are a threat to public health or water quality. From the fees collected, a grant is given to homeowners for the costs attributable to upgrading an onsite sewage disposal system to the best available technology for the removal of nitrogen, or the cost difference between a conventional onsite sewage disposal system and a system that utilizes the best available technology for the removal of nitrogen, or the cost of repairing

or replacing a failing onsite sewage disposal system with a system that uses the best available technology for nitrogen removal, or connection to an existing WWTP that uses biological or enhanced nutrient removal technology.

The total estimated program income for fees collected specifically from users of an onsite sewage disposal system or holding tank is \$27 million per year. 60 percent of these funds are used for septic system upgrades and the remaining 40 percent are used for cover crops. There are approximately 420,000 onsite systems in Maryland. The State has upgraded over 12,000 conventional septic systems by either hooking the dwelling to a public sewer connection or installing a nitrogen removing BAT through the Bay Restoration Fund Onsite Sewer Disposal System grant program. The BRF onsite sewage disposal system grants are awarded directly to local governments, health departments, and others based on eligibility and a priority list. The grantees then award the grants directly to eligible homeowner applicants. The State maintains a list of approved BAT systems and the vendors/manufacturers of such approved BAT systems.

3. MASSACHUSETTS' TITLE V COMMUNITY SEPTIC MANAGEMENT PROGRAM AND TAX CREDIT PROGRAM

In 1996, the Massachusetts Department of Environmental Protection (MassDEP) linked the problem of failing septic systems (and cesspools) in the Commonwealth to water pollution and drinking water contamination. As a result, the Title V Community Septic Management Program was created to help address homeowners' funding and affordability concerns with repair and/or replacement costs. Since the inception of this program, the Massachusetts Clean Water Trust (the Trust) and the Commonwealth's state revolving fund (SRF) program which provides low cost funding from its clean water SRF to municipalities, has provided over \$22 million in funding to municipalities which in turn has resulted in repairs or replacements of over 4,000 systems.²

In terms of the Community Septic Management Program, the Trust provides up to \$5 million a year from either tax-exempt bond proceeds (which in the past were part of a larger SRF new money bond financing) or from the clean water SRF program assets to fund municipalities' needs. The loan rate to municipalities is based upon the SRF program's funding requirements and is currently 2 percent for up to 20 years. The SRF loan is fully disbursed to the municipality and is typically secured by the municipality's general obligation pledge. In turn, the municipality lends the monies to homeowners to fund the repair/replacement work under loan terms and conditions established by the municipality. As an example of how a community funds homeowner needs, the town of Plymouth, Massachusetts requires first that homeowners meet certain qualifications including the following:

- Household income cannot exceed \$150,000;
- All real estate taxes, water bill or any other municipal accounts must be paid and be up-to-date; and
- A betterment agreement with the town must be signed and recorded at the Registry of Deeds.

Furthermore, homeowner credit checks are not required. Once the loan application is reviewed and approved, the town can offer approved homeowners with loan monies for a period of 5, 10 or 15 years at a fixed 5% interest rate. Loan payments are due bi-annually as part of the homeowners' property tax bills.

² For additional information, please see: www.mass.gov/treasury/affiliated-prog/clean-water-trust/programs/title-v-community-septic-management-program.html

Annual assessments are made each January 1st and June 1st. The homeowners' loan repayments can be used to pay for the municipality's debt payments to the Trust. Theoretically and subject to a tax analysis and opinion, any excess loan repayments – which may result from any loan prepayments or from the interest rate differential between the municipality's funding costs and the loan rate charged to homeowners – may be recycled and used for additional new homeowner loans.³ Other Commonwealth municipalities may have different program terms and conditions. For example, Barnstable County, which covers the Cape Cod area, does not have an income restriction but requires monthly loan repayments which can be extended out for 20 years.⁴

In addition to this financing program and for any connections to a municipal sewer system as mandated by a court order, consent order or similar situations, the Massachusetts Department of Revenue offers any Commonwealth property owner who occupies the property as his/her primary residence and incurs expenses relating to the repair or replacement of a septic system, a 40 percent tax credit on the actual costs, up to \$15,000. Therefore, and with certain conditions, qualified homeowners can receive up to a \$1,500 per year tax credit benefit with a total maximum tax credit benefit of \$6,000.⁵

4. MAINE'S SEPTIC SYSTEM REPAIR AND REPLACEMENT REMOVAL PROGRAM

In 1995, several State of Maine departments collaborated to create a program to provide low interest rate loans for septic system repair or replacement to qualifying households. The Department of Environmental Protection (DEP), which administers the state's Clean Water State Revolving Loan Fund (CWSRF) program, and Maine Municipal Bond Bank (MMBB), which manages the CWSRF funds, began discussing the creation of a loan program. Since MMBB manages loans to municipal and governmental agencies, it was hoped they could provide the loans to low-income households. Unfortunately, MMBB's state charter does not allow them to provide loans to households. A third state department, the Maine State Housing Authority (MSHA), was approached for assistance in creating the program. Since MSHA's mission includes providing financial assistance to low-income households, they agreed to accept the money from the CWSRF program to create a loan fund. To reach the low-income households, MSHA coordinated with Community Action Agencies (CAAs) located in the local communities throughout the state. The CAAs promoted the program to their clients and obtained information to determine whether the households qualified for the program. To qualify, the household income could not exceed 120 percent of the County's median income limits by family size. Qualifying households were eligible for a 20-year, 1 percent loan. Households were required to repay the loan by making a principal and interest payment each month.

Between the start of the program in June 1995 and its official termination in July 2016, the program provided 466 loans totaling over \$2.61 million for the repair or replacement of private septic systems.

³ For more information on this program including the homeowner loan application, please see: www.plymouth-ma.gov/community-development/pages/title-v-septic-loan-program.

⁴ For additional information on Barnstable County's Community Septic Management Loan Program, please see: www.barnstablecountysepticloan.org.

⁵ For further information, please see: www.mass.gov/dor/individuals/filing-and-payment-information/guide-to-personal-income-tax/credits/residential-property-credits.html#Repair.

Although the program was successful in providing financial assistance for septic system repair/replacement to low income families, the program identified two issues that caused the program to eventually be eliminated in July 2016: (i) the costs of the program exceeded the fees being charged and (ii) the requirement that households fully amortize their loan within a specific length of time. Per the Federal Real Estate Settlement Procedures Act, the loan processing fee assessed could not be greater than 1 percent of the loan amount. With an average loan being \$5,600, the average loan could only be assessed \$56 in fees without violating the Act. To compensate, the MSHA assessed a fee of \$800 on the CAAs, which did not appear to be in accordance with the Act. MSHA's and the CAAs' direct administrative costs and the cost of servicing the loans through a commercial bank were higher than \$2,000. MSHA determined this shortfall to be an unsustainable program subsidy. The second issue was the requirement that the household had to make a principal and interest payment sufficient to fully amortize the loan within twenty years as required by CWSRF program (which later was increased to thirty years). The principal and interest payment was too financially burdensome for many low income households. (By May 2016, 17 percent of the outstanding loans were delinquent). One of several recommended options provided by MSHA was that the CWSRF program consider a rule change to allow loans with 0% interest and the principal due upon sale of the property. Although this option was discussed, it did not meet the amortization requirement of the CWSRF program.

5. OTHER DIRECT FINANCING PROGRAMS

Community Development Financial Institutions (CDFIs). While the CDFI Fund does not make loans directly to individuals or directly finance specific projects, the CDFI Fund does provide financing to certified CDFI organizations throughout the country. They in turn provide financing to individuals. CDFIs exist in all 50 states, the District of Columbia, Guam, Puerto Rico and the U.S. Virgin Islands. They provide financial services to low income communities, organizations as well as individuals. Currently, there are about 1,000 CDFIs in operation. Some CDFIs, such as Craft 3 in Oregon, fund loans to replace or repair septic systems.

Each CDFI determines what to use the fund for so it is essential to find the local CDFI in the area and contact them directly. Since their mission is to provide critical financial services to disadvantaged and distressed communities, they are a potential source of funding for low income families seeking low interest loan assistance to replace or repair onsite decentralized systems.

The U.S. Department of Treasury, which funds the network of CDFIs throughout the country, maintains a website with information for the general public.⁶ Using the website, the list of certified CDFIs can be sorted by CDFI name, location, or type (e.g., bank, credit union, venture capital fund). The list will contain contact information for each CDFI, which individuals can use to inquire about the types of assistance it may provide.

CDFIs exist in the form of:

- Nonprofit organizations that have a loan fund;
- Credit unions;

⁶ For addition information, please see: <https://www.cdfifund.gov>.

- Community development banks or thrifts; and
- Venture capital funds.

Rural Community Assistance Partnership (RCAP). The RCAP is a network of organizations that work with small rural communities in all 50 states, U.S. territories, and Native American tribal lands.⁷ Most of the communities where RCAP organizations work are under 10,000 in population. The mission of the RCAPs is to help solve challenges facing rural communities. The RCAP is part of a large group of entities that work at the local, state and Federal level on a wide range of programs.

While there is funding available to non-profits, small communities and tribal governments in many areas, only some RCAPs provide funding to individuals for septic repairs and/or replacement. The Southeast Rural Community Assistance Project, Inc. (SERCAP) has a septic loan program throughout their 7 state region.⁸ The current interest rates range from 2 percent to 4 percent. The maximum loan amount ranges from \$6,000 to \$9,000 for a term of up to 10 years for eligible homeowners. There is a credit report required and a minimum credit score of 640. The SERCAP also offers grants but only in the state of Virginia (approximately \$500,000 a year funded from the local general assembly). They have used the grant monies to pump out septic systems for low income communities along the Eastern Shore to help with the health of the Chesapeake Bay efforts. Additionally, the Rural Community Assistance Corporation (RCAC), the western RCAP, has a CDFI loan program that has been working with the Idaho SRF to set up a funding program for individual homeowners in Idaho who need septic repair or replacement.⁹ For this program, the Idaho SRF will provide funds to the RCAC loan program and RCAC will provide loans to the homeowners. Local health departments will continue to provide the technical assistance and expertise for installation or repair which they currently do in Idaho.

U. S. Department of Agriculture (USDA) Single Family Housing Repair Loans & Grants (also known as the Section 504 Home Repair Program). The USDA 504 Program as well as other USDA programs can be accessed at the local USDA offices nationwide and in U.S. territories. The 504 program provides loans to very low income homeowners to repair, improve, or modernize their homes which may include repairs and/or replacement of septic systems. It also provides grants to very low income elderly to remove health and safety hazards.¹⁰

The program qualifications are:

- Be the homeowner and occupy the house;
- Be unable to obtain affordable credit elsewhere;
- Have a family income below 50 percent of the area median income; and
- For grants, be age 62 or older and not be able to repay a repair loan.

⁷ To inquire about other programs or a program in a particular community or state, please contact the RCAP national office at 800/321-7227 or their website www.rcap.org/who-we-are/#region.

⁸ For additional information, please see: www.sercap.org or call 1-855-827-4910.

⁹ For additional information, please see: www.rcac.org.

¹⁰ For additional information, please see: www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants.

The program offers loan grant combinations. The homeowner may apply at any time of the year when the assistance is needed. USDA maintains local offices nationwide and in the U.S. territories.

6. OTHER INDIRECT FINANCING PROGRAMS

The funding programs presented below do not fund individuals directly. However, they may provide assistance to community decision makers/organizations such as water and wastewater utilities, municipalities, associations, water and sanitation districts, Native American tribes, nonprofit organizations, cooperatives, etc. so that these organizations may assist the individual homeowner or establish a decentralized system management program.

U.S. Department of Housing and Urban Development (HUD) Title 1 Home and Property Improvement Loans. Nationwide, HUD approved lenders may provide funding to individuals for home improvements, repairs and/or alterations. HUD does not lend money directly to individuals, however, HUD insures private lenders against loss on property improvement loans they make to individuals. HUD maintains a list of lenders nationwide which could be a bank, mortgage company, savings and loan association or credit union.¹¹

The features of a HUD Title I Program include the following:

- Funding up to \$25,000;
- Maximum loan term of 20 years;
- Varying interest rates among lenders; and
- Only available to homeowners.

National Rural Water Association (NRWA). The NRWA Rural Water Loan Fund (RWLF) provides low interest loans to water and wastewater utilities in rural communities for short term repairs, small capital projects, system upgrades, maintenance and small capital projects plus disaster recovery and emergencies. Systems must be public entities: municipalities, counties, special purpose districts, Native American tribes, nonprofit corporations and cooperatives serving up to 10,000 persons, or in rural areas with no population limits. The loans are for a maximum 10-year period and are available within a couple of weeks after the application is approved. The NRWA, a nationwide organization, charges no administrative or processing fees and has a straightforward application process. Thus a water and/or wastewater utility in a rural community may borrow from this fund to set up a loan program to assist individuals with the repairs and replacement of their septic system.¹²

U.S. EPA Water Infrastructure and Resilience Finance Center (WIRFC) and U.S. EPA Water Infrastructure Finance and Innovation Act (WIFIA) Program. WIRFC's goal is to provide financing information to help local decision makers make informed and sound decisions. WIRFC may be a "one stop shop" for a community that is seeking to establish a program to either fund individual property owners repair or

¹¹ To find a local lender organization, please contact HUD at 800/767-7468 and request item number 2571 or item 2651.

¹² For additional information, please call the national office at 800/332-8715 or email www.nrwarwlf@nrwa.org.

replace septic systems or for a community that is seeking to establish its own septic maintenance, repair and replacement program. Many utilities have a septic management program and bill monthly for the service. Depending on the size and cost of the program a potential funder for it could be the federally sponsored WIFIA loan program. The WIFIA program requires a \$5 million minimum project size for a population of 25,000 or less people. However, if the project is smaller, WIRFC may work with the utility to find other sources of funding.

Additionally, on July 26, 2017, WIRFC launched its Water Finance Clearinghouse, “a web-based portal to help communities make informed financing decisions for their drinking water, wastewater and stormwater infrastructure needs. The Clearinghouse provides communities with a searchable database with more than \$10 billion in water funding sources and over 550 resources to support local water infrastructure projects.” In addition to providing available funding sources, the Clearinghouse also provides “resources (such as reports, webpages, and webinars) on financing mechanisms and approaches that can help communities access capital to meet their water infrastructure needs.”¹³

B. NEW FINANCING PROGRAMS/RECOMMENDATIONS

A state or municipal entity seeking to fund decentralized wastewater systems may be able to adopt the various tax, bonding, tax credit financing programs as well as have homeowners access the low cost loan and grant programs discussed in the “Review of Existing Funding Programs” section above. Recognizing that decentralized wastewater system funding needs across the nation are sizeable and that these needs may not be met just from existing states/municipality financing programs (including any grant and/or private monies), we provide our new financing programs and recommendations below. Generally, these financing recommendations are low cost loan programs that can: (i) be successfully implemented; (ii) provide a significant amount of increased funding capacity; and (iii) achieve a relatively lower cost for homeowners when compared to their current alternative cost of funds. Please also see the “EFAB Recommended Financing Program Matrix” provided in Appendix B.

In the analysis below, we also highlight the advantages of each financing recommendation as well as address potential challenges and concerns. We recognize that certain parts of our recommendations, such as SRF funding, may currently be in place. However, in addressing the potential challenges and concerns relating to these recommendations, we believe that this can result in greater financing capacity and expanded use.¹⁴ Similarly, we have included the linked deposit loan program recommendation in this section since it is a very effective financing tool but is not yet commonly utilized for decentralized wastewater system funding across the U.S.

Please note that our recommendations are not mutually exclusive to each other and should also be considered in conjunction with existing programs from a co-funding perspective (i.e., loan-based and/or grant-based programs) to maximize funding capacity as well as further reduce the costs for homeowners, by reducing the interest cost on the loan and/or forgiving a portion of the loan principal. It is also

¹³ For additional information, please see: www.epa.gov/waterfinancecenter/water-finance-clearinghouse.

¹⁴ A National Onsite Wastewater Recycling Association analysis of US EPA data on SRF expenditures from 1990-2012 indicates that there are 21 states which have at some time provided some funding for decentralized wastewater systems. However when compared to the total amount of Federal SRF capitalization grants, less than 1% of total Federal SRF capitalization grants have been disbursed for decentralized wastewater system purposes.

important to note that certain states may have “anti-donation” clauses which impose restrictions on state and/or local government involvement in certain circumstances. For example, in New Mexico as it relates to the construction of any railroad, the state constitution states that “neither the state nor any county...or municipality...shall directly or indirectly lend or pledge its credit or make any donation to or in aid of any person, association or public or private corporation.”

1. DIRECT FINANCING THROUGH THE STATE REVOLVING FUND PROGRAM

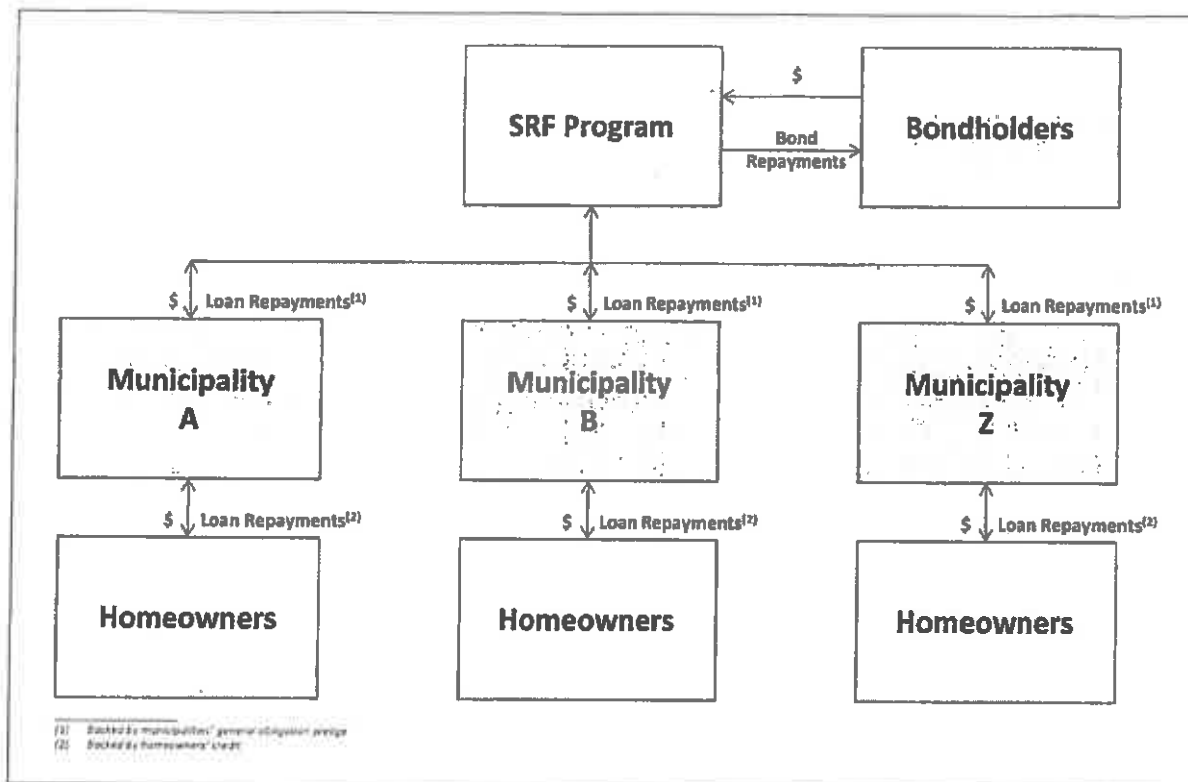
Given the success of SRF programs throughout the U.S., there is the opportunity for the SRF program to directly fund under the Clean Water SRF program and to do so at higher funding capacity levels.¹⁵ More specifically, the SRF program can provide direct funding via the capital markets to a municipality which aggregates approved homeowners’ funding requests and secures the aggregate loans with its general obligation or other security pledge. This financing approach offers: (i) a below-market interest rate which is also attractive to homeowners; (ii) economies of scale relating to the bond issuance costs – due to the fact that SRF programs are pooled financings which allow high fixed issuance costs to be spread across all borrowers; and (iii) a potentially large funding source – given the large SRF program assets in most states. In this recommendation, we assumed that the homeowner is providing their personal credit to secure the loan as opposed to an assessment on their property (which is discussed in the “Adopting a PACE/Tax Lien Financing Program” recommendation below). Additionally, since the municipality is securing the homeowner loans, any personal/homeowner credit concerns are mitigated. Furthermore, current SRF program requirements under the Federal Clean Water SRF program would still need to be met.

Please note that since most SRF programs in the U.S. provide funding for their borrower needs by leveraging in the municipal capital markets on a tax-exempt basis, SRF programs have various tax restrictions pertaining to the issuance of bonds, the use of bond proceeds as well as other restrictions in order to maintain the tax-exempt status of their SRF financing. Though this report considers these tax requirements on a general level, SRF programs should engage tax counsel to review, analyze and opine on all tax requirements relating to this financing recommendation.

Please see the financing schematic in Exhibit 1 below:

Exhibit 1 – Direct Financing through the State Revolving Fund Program

¹⁵ Unlike other SRF programs in the nation, the State of Washington sets aside a percentage of its annual state SRF disbursements specifically for decentralized wastewater systems and is the only state where such a set aside is part of state law.



Since tax-exempt bond financing is one of the primary funding sources for municipal water utilities, tax considerations need to be evaluated in determining available funding solutions. Generally, we believe a SRF program can offer two financing opportunities. First, the SRF program can provide loan financing to a non-governmental person from an SRF tax-exempt bond financing, but only in an amount equal to the lesser of: (i) \$5 million or (ii) 5 percent of the bond proceeds under the “private loan test” requirements of the current tax code. If these limits are exceeded, the entire SRF bond financing may be deemed taxable and subject to higher rates and the issuer subject to certain penalties. Furthermore, once the tax-exempt bond proceeds are loaned to municipalities, there may be restrictions on the loan rate that the municipality can charge to the homeowners. However, SRF program assets that are “not attributable” to a tax-exempt financing – such as Federal capitalization grant monies and servicing fees – may not be subject to these limitations. Second, the SRF program can provide loan financing through the issuance of taxable bonds, which in the current market may only be a slightly more expensive option than tax-exempt financing. However, unlike a tax-exempt financing, a taxable bond financing typically does not involve any tax concerns or financing restrictions (such as the limitation on the municipality’s loan rate to the homeowner). Additionally, in the current market, the taxable rates (especially for highly-rated SRF programs) will typically be lower and thus more attractive when compared to the homeowners’ alternative cost of funds.

In addition to the increased funding available for qualified homeowners described in the loan financing scenarios above, this financing strategy benefits the SRF programs not only by increasing the borrower diversity of the SRF loan portfolio (which is important to maintain the SRF program’s ratings and to address any borrower concentration concerns) but also by increasing the SRF program’s efficiency and funding

capacity (which is achieved by converting available monies to long-term loans and leveraging the corresponding loan repayments). Furthermore, the first financing opportunity described above tends to favor larger SRF programs with a relatively large asset base and tax-exempt financings, in terms of the absolute dollar amount of available funding. However, the second financing opportunity can benefit all SRF programs.

An important consideration exists for this financing recommendation. It assumes the active involvement of the local municipality in: (i) aggregating homeowner loans; (ii) securing it with the municipality's general obligation or other pledge; (iii) seeking funding through the SRF program; and (iv) tracking homeowner loan repayments. Furthermore, the municipality is assuming the full credit risk associated with the homeowner not making their loan repayments. Given the limited staffing and resources at the local municipality level as well as the associated credit risk related to each homeowner loan, the municipality may not be able or want to serve in this function, especially relatively smaller, less financially sophisticated municipalities.

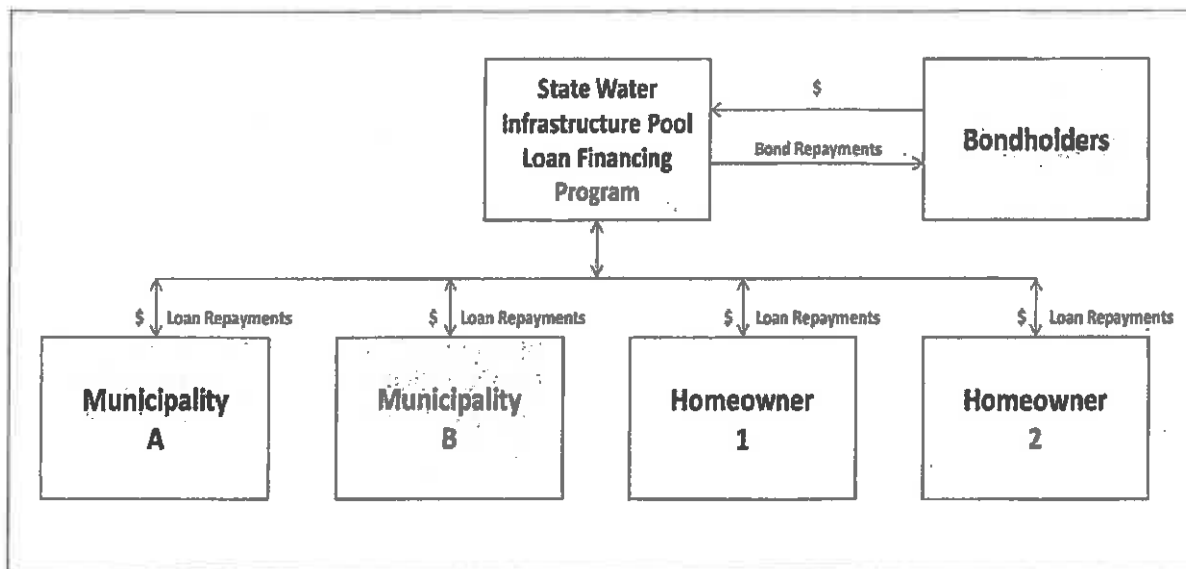
As an alternative to leveraging within the SRF program which can be a time-consuming and expensive process, another recommendation is to use all or a portion of the maximum 4 percent administrative set-asides from Federal capitalization grant monies to loan to decentralized wastewater systems. (This recommendation assumes that a SRF program does not leverage its current allowable set-aside monies and uses these monies for administrative purposes.) As long as Federal capitalization grants continue, the SRF program will have a continuous source of available funding for these projects. Furthermore, if the SRF program needs monies for administrative purposes, the SRF program can charge a (or increase its) loan origination fee and/or an ongoing servicing fee.

2. WATER INFRASTRUCTURE POOLED LOAN FINANCING PROGRAM

There is also the opportunity to establish a water infrastructure pooled loan (non-SRF) financing program as either: (i) an extension of the existing SRF program to increase funding/loan capacity and/or (ii) a separate program to fund the borrowers' SRF ineligible water projects. A water infrastructure pooled loan financing program – a state-level general water financing program which offers prospective borrowers low cost, fixed rate long term loans – can be easily structured/modeled after the existing SRF program. As with the “Direct Financing through the State Revolving Fund Program” recommendation above, the program funding would be provided through bond financing on a tax-exempt (with certain limitations, as discussed above) or taxable basis. Additionally, this approach offers: (i) a potentially lower cost of funds – relative to the borrowers' alternative cost of funds, especially for lower-rated borrowers; (ii) economies of scale relating to the bond issuance costs – similar to SRF programs as discussed above; and (iii) a new funding program – which provides economical as well as expanded funding capacity.

Please see the schematic in Exhibit 2 below.

Exhibit 2 – Water Infrastructure Pooled Loan Financing Program



Please note that this structure relies upon the credit strength of the underlying borrowers. If additional credit strength is needed, the state can consider the use of one or a combination of additional enhancements such as double-barrel structures (i.e., using a revenue pledge and a second security pledge such as sales taxes), state-aid intercept, bond insurance (if available) or SRF guarantee capacity.¹⁶

If equity funding (e.g., outside contributions, grant monies, etc.) is possibly available as with the SRF program, these monies can be used in various ways (i.e., as interest subsidy or a zero percent loan, etc.) to make the water infrastructure pooled loan financing program that much more financially attractive for prospective borrowers. Even without equity funding but using the SRF program structure as a basis (which would be relatively simple and easy to achieve), a state still has the ability to efficiently structure a *market-rate pooled loan program* which would be: (i) highly-rated – based upon the SRF program’s strong underwriting standards, management and monitoring expertise and (ii) economical – based upon cost savings from the pooling of bond issuance costs. In addition to providing additional financial assistance to meet the state’s funding needs, the state program can also charge borrower fees (upfront origination and/or on-going service fees) which can provide a source of revenues to the state to defray its administration costs and/or provide additional funding for borrower loans.

Since SRF programs are well-recognized for their strong management, underwriting standards and monitoring activities, this new financing program can also be managed by a state’s SRF program using the programs’ proven legal documentation and program policies. This approach should also help achieve high ratings since the rating agencies generally credit SRF programs with strong management oversight. However, there may still be challenges associated with this financing recommendation. First, depending

¹⁶ The SRF guarantee may be an effective vehicle for providing credit enhancement for needed funding in this area. For example, in recent years the New York State Environmental Facilities Corporation established a SRF guarantee program which was used to support unsecured residential home loans underwritten by a sister agency, the New York State Energy Research and Development Authority. For a primer on SRF guarantee mechanics, please see a previous EFAB report at: www.epa.gov/waterfinancecenter/efab-report-utilizing-srf-funding-green-infrastructure-projects.

upon state laws, a state and/or SRF program may need the legal authority to create and administer such a financing program. Second, to increase the appeal of this program to prospective borrowers, program objectives and administrative guidelines need to be developed and prioritized and then implemented. This may result in administrative and staffing challenges at the state/SRF program level.

3. "PACE"/TAX LIEN FINANCING PROGRAM

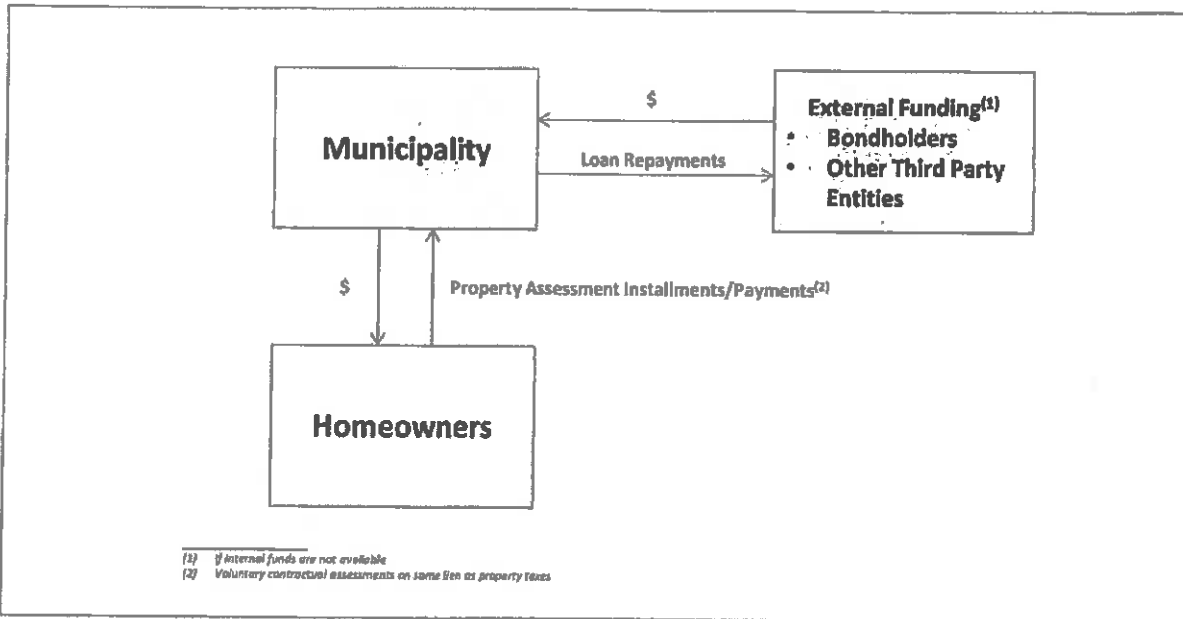
Instead of utilizing borrower-backed revenue financing as with the previous recommendations, a "PACE" (Property Assessed Clean Energy) or tax lien financing program can also be implemented. The major advantage of this recommendation is that PACE financings are a proven and highly-secured financing structure. This structure may also result in a potentially large funding source. *Please note that a general discussion of the PACE program is provided below. However, state laws vary and PACE programs are dependent upon state law requirements as well as the specific PACE program structure/details.*

Since 2008, PACE programs have enabled local governments/municipalities to finance over \$3.7 billion in energy efficiency, renewable energy or water conservation projects on privately owned residential (as well as commercial, agricultural and industrial) properties.¹⁷ Generally, the municipality creates a PACE special assessment/tax district and arranges for funding (e.g., internal funds, municipal bonding and/or third-party financing, etc.) which is typically fixed rate debt with repayment terms between 5 and 20 years. *An integral feature of the PACE program is that these PACE assessments (which are repaid in installments on the homeowners' property tax bill) are voluntary contractual assessments levied on properties in order to finance the acquisition and installation of eligible clean energy improvements (which can also increase homeowners' property values). Furthermore, the PACE assessment has an equal lien status with property taxes but a senior lien status to mortgages and any other non-tax liens.* Furthermore, a PACE assessment constitutes a lien against the entire property and not just the specific improvement installed and funded from the assessment. The assessment also remains with the property, irrespective of any intervening sales, until it is fully paid. Thus in the event of a property foreclosure or mortgage default and unlike most residential mortgages, there is no acceleration of the assessment and the new home purchaser would generally take over the assessment payments.

Please see the schematic in Exhibit 3 below.

Exhibit 3 – "PACE"/TAX LIEN FINANCING PROGRAM

¹⁷ For additional information, please see: www.pacenation.us/pace-market-data.



A PACE/tax lien financing program for decentralized wastewater systems could provide not only immediate funding for the high upfront costs associated for such work but also flexible repayment terms and conditions (e.g., lower monthly/semi-annual payments, relatively competitive interest rates, etc.). The municipality benefits since the PACE/tax lien financing program can assist in reducing the decentralized wastewater system financing concerns in the community. With respect to default levels for PACE financings, reports have varied with respect to the default risks but they generally appear in line with property tax default levels.¹⁸ Also in a default, only the accrued but unpaid portion of the PACE loan is at risk. Unlike the general PACE financing program, the homeowner may not realize the same type of property value increases as a result of a PACE/tax-lien financing program for decentralized wastewater systems.

The Federal Housing Finance Agency, which regulates Fannie Mae and Freddie MAC – two large insurers in the mortgage market- as well as the Mortgage Bankers Association have voiced concerns that the higher lien status for PACE assessments (relative to mortgages) could leave less residual home equity to pay them back in a foreclosure.¹⁹ Additionally, Fannie Mae and Freddie MAC do not currently provide financing for properties with existing PACE assessments, which may negatively affect residents with respect to any future refinancings. Furthermore, on April 5, 2017, S.838 – also known as the PACE Act of 2017 – was introduced in the U.S. Senate, which if passed, would define PACE assessments as a mortgage loan and subject the assessment to the Truth in Lending Act rules and municipalities and contractors to additional requirements.²⁰ As a result, there may be compliance concerns with implementing the current PACE-type financing program.

¹⁸ For additional information, please see: www.aceee.org/blog/2017/03/what-wall-street-journal-got-wrong and "Energy-Saving Loans Are Turning Bad," The Wall Street Journal, August 16, 2017.

¹⁹ For additional information, please see: www.mba.org/servicing-newslink/2017/january/servicing-newslink-tuesday-1-17-17/mbanow-mba-expresses-concerns-on-pace-loans.

²⁰ For additional information, please see: www.congress.gov/bill/115th-congress/senate-bill/838.

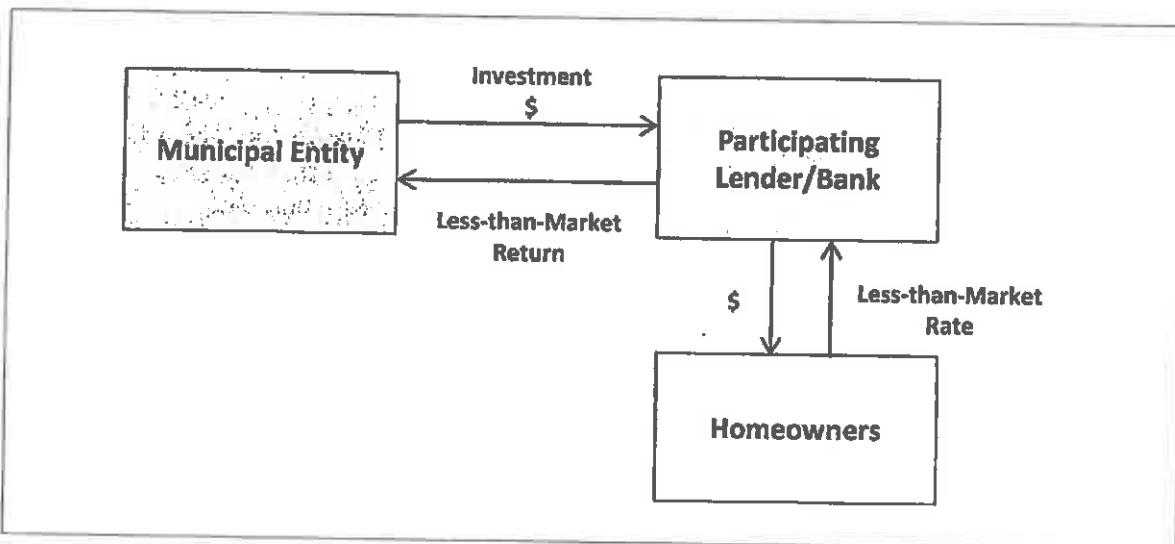
Before a municipality can adopt a PACE/tax-lien financing program, the state may need to create the necessary legislation for such a program and provide the authority for the municipalities to create a special assessment/tax district. The municipality would then pass any needed ordinances to create the assessment zones as well as establish the creation of the lien and project funding options. To assist states and municipalities in establishing a PACE program, the Department of Energy on November 18, 2016 released "Best Practice Guidelines for Residential PACE Financing Programs."²¹ However as noted above, if S. 838 becomes law, it may change the PACE financing landscape going forward.

4. LINKED DEPOSIT LOAN PROGRAM

Generally, a "linked deposit loan" program is a financial arrangement where a municipal entity agrees to invest monies (in instruments such as certificates of deposit) with participating financial institutions and, in turn, agrees to accept a less-than-market rate of return (with the interest rate differential being equal to the market rate less the investment rate). The principal amount of the investment is then loaned to qualified individuals for specified purposes at a less-than-market rate (i.e., market rate less the interest rate differential) with the participating financial institution servicing the loan. This financing approach offers: (i) a lower cost of funds – relative to the homeowners' alternative cost of funds; (ii) a relatively simple funding structure – for the municipal entity since no debt and debt issuance costs are incurred; and (iii) administrative ease – for the homeowners since they only have to deal with the participating financial institutions and for the municipalities since they are not involved with loan servicing.

Please see the schematic in Exhibit 4 below.

Exhibit 4 – Linked Deposit Loan Program



With management and funding through the Iowa SRF program as administered by the Iowa Finance Authority (IFA), Iowa's On-site Wastewater Assistance Program (OSWAP) offers low-interest loans through participating lenders to homeowners for the replacement of inadequate or failing septic systems. According to Iowa law, all septic systems, regardless of when they were installed, must have a secondary

²¹ For additional information, please see: www.energy.gov/eere/slsc/downloads/updated-guidelines-residential-pace-financing-programs.

wastewater treatment system following the septic tank. Eligible applicants must own an existing home with a septic system in an area not served by a public sewer. Approved systems include both a septic tank and secondary treatment system such as a leach field. All projects are certified and inspected by the local county sanitarian and approved by the Iowa Department of Natural Resources (IDNR). Loans are made through linked deposits with participating lenders. Loan amounts start at \$2,000 with terms up to 10 years and a 3 percent interest rate. The loan can fund 100 percent of actual costs. One of the benefits of the linked deposit system is that the borrower can use his/her own lender. The deposit does not guarantee the loan nor is it collateral for the loan. It is only to reduce the interest rate charged to the borrower. Please see additional OSWAP information in Appendix A.

To start the financing process which is on an ongoing basis, the homeowner works with the county sanitarian to determine the appropriate system. The homeowner then contacts his lender for a loan. The lender originates loans using their normal underwriting criteria and loan documents. After the loan is approved, the project is constructed. The county sanitarian inspects the completed system and the IDNR gives final approval. If it is a new lender, a deposit account in the name of IFA is created. IFA deposits funds equal to the principal amount of the loan at 0 percent interest into their deposit account at the participating bank. Annually, IFA withdraws from its deposit account an amount equal to the principal repayment of the outstanding loan. As a result, the amount in the deposit account will equal the principal outstanding on the loan. The applications, approvals and payments are all done via an online system. All deposits and withdrawals are done through an Automated Clearing House (ACH). Since the program's inception, Iowa has funded 1,840 loans and deposited almost \$15 million with 294 participating lenders.²² Iowa also uses the same structure to finance soil conservation and manure management projects.

The Ohio Water Development Authority's (OWDA) Water Pollution Control's Loan Fund Linked Deposit Program works in a similar manner.²³ In addition to decentralized wastewater systems, this program also funds "agricultural or forestry best management practices" and other non-point source pollution control projects for individuals as well as for private entities and governmental agencies. The maximum loan amount and repayment rate is set according to the participating bank agreement. For the borrower/homeowner, the interest rate would be the current bank rate for similar loans less a maximum of 500 basis points or 5 percent (with maximum maturities of 10 years and 20 years for private borrowers and public borrowers, respectively, and subject to a useful life limitation). For OWDA, the interest rate would be the U.S. Treasury note/bond yield less 500 basis points with a 0 percent interest rate floor.

5. SUBSIDIZED WARRANTY PROGRAM

In addition to providing financing for decentralized wastewater system repair and replacement needs, a state/municipality may also consider providing financing and/or subsidies for a warranty program which may reduce not only the homeowners' ongoing maintenance expenses and future replacement costs but also possibly the municipality's capital expenses. Though most homeowner warranty programs do not cover decentralized wastewater systems, warranty programs for sewer/septic lines as well as decentralized wastewater systems do exist. For sewer/septic lines, the program covers costs related to cracks and leaks on the buried sewer/septic line on the customer's property that carries waste away from

²² For additional information, please see:

www.iowasrf.com/program/other_water_quality_programs/onsite_waste_water_assistance_program.cfm.

²³ For additional information, please see: www.owda.org/owda-doc/Program%20Info/NotesWPCLFlink%202011Mar.pdf

the home. Currently, such warranty programs cost up to \$100 annually and provide up to \$10,000 of repair work a year. For decentralized wastewater systems, the available warranty programs have various exclusions and may cost up to \$400-500 annually. Providers of sewer/septic line warranty programs have expressed their willingness to expand their programs to provide financial assistance covering the repairs to whole systems. If such a product was offered on a broader scale, homeowners might find it more affordable to pay a relatively small monthly fee than a large unexpected repair cost. Two national companies, providing sewer/septic line warranty programs, have expressed interest in providing such a program and, if the barriers noted below can be overcome, offering the product to low-income households nationally.²⁴

The first barrier to creating the program is obtaining a reliable estimate of the frequency of failure and average cost for repair and replacement. The provider of the home repair warranty program needs this information to appropriately "price" the product. Though the actual monthly fee for such a program is not known, the monthly fee may still not be affordable to low-income homeowners. To overcome this barrier, state/local governmental entities, including water and sewer utilities or non-profit social service organizations, could consider subsidizing the monthly fee to make it affordable to those households. Currently and as noted above, governmental entities and utilities dedicate financial assistance to address failing septic systems. Providing a subsidy to low-income households may enable those entities to provide assistance to more households. In addition, such a program could create an on-going relationship with those households that could encourage better maintenance of the septic system and thus lower ongoing maintenance expenses as well as future replacement costs. The program could be a more cost-effective alternative for a government or utility addressing a potential expansion of the public sewer system or a watershed protection issue.

IV. SUMMARY/CONCLUSION

Recently, U.S. EPA's Office of Water provided EFAB a charge to "identify existing and prospective funding strategies that better address the challenge of funding the repair or replacement of failing decentralized wastewater systems." To address this charge, we analyzed this matter both within EFAB as well as with outside expert consultants.

Our report was prepared in two parts. In the first part, we analyzed existing funding programs which includes: (i) information provided by the Council of Infrastructure Financing Authorities (CIFA) – which represents most SRF programs in the nation; (ii) a review of existing funding programs – in certain states (i.e., Maryland's Bay Restoration Fund Program, Massachusetts Title V Community Septic Management Program and Tax Credit Program and Maine's Septic System Repair and Replacement Removal Program); and (iii) a discussion of various direct as well as indirect financing programs.

In the second part, we recognized that decentralized wastewater system funding needs across the nation are sizeable and that these needs may not be met just from existing states/municipality financing programs (including any grant and/or private monies). Generally, our new financing programs and recommendations below are low cost loan programs that: (i) can be successfully implemented; (ii) provide

²⁴ Based upon preliminary discussions with HomeServe and American Water Resources.

a significant amount of increased funding capacity; and (iii) achieve a relatively lower cost for homeowners when compared to their current alternative cost of funds.

1. *Direct Financing through the State Revolving Fund Program – on a tax-exempt or taxable basis with the municipalities aggregating the homeowner loans and providing a general obligation pledge or other security pledge to meet any personal/homeowner credit concerns;*
2. *Water Infrastructure Pooled Loan Financing Program – which is a new funding structure/program and can provide not only a significant amount of funding capacity but also a relatively lower cost for homeowners;*
3. *“PACE”/Tax Lien Financing Program – which is a voluntary contractual assessment that can address any personal/homeowner credit concerns and provide a proven and highly-secured financing structure;*
4. *Linked Deposit Loan Program – which provides a simple funding structure that minimizes the states’/municipalities’ administrative cost/burden and achieves a relatively lower cost for homeowners; and*
5. *Subsidized Warranty Program – this program in conjunction with other financing programs may reduce the homeowners’ ongoing maintenance expenses as well as future replacement costs.*

Please note that our recommendations are not mutually exclusive to each other and should also be considered in conjunction with any existing programs from a co-funding perspective (i.e., loan-based and/or grant-based programs) to maximize funding capacity as well as further reduce the costs for homeowners, by reducing the interest cost of the loan and/or forgiving a portion of the loan principal.

Appendix A: Council of Infrastructure Financing Authorities' Information

State/General Description	Year Program Started	Funding Source	Total Amount of Available Funding	Total Number and Dollar Value of Projects Funded	Program Features	Website Reference
Iowa – funding through a linked deposit program	2003	Recycled SRF Funds	\$1 mm in Loans per year	\$15 mm for 1,840 projects since 2003	<ul style="list-style-type: none"> • \$2,000 loan minimum • Maximum loan term of 10 years • 3% loan rate 	www.iowalinkeddeposit.com
Minnesota – funding from the Small Community Wastewater Treatment Program; two different non-point source loan programs within the CWSRF. Program can fund individuals directly or through a bank participation loan process	N/A	Clean Water Legacy Fund	N/A	38 technical assistance grants for \$1.1 mm and 13 construction projects for \$7.8 mm, since 2007	Technical assistance grants of up to \$60,000 for site evaluation, feasibility studies and construction loans/grants to build community soil-based treatment systems	www.mn.gov/pfa (and then the "Infrastructure Funds and Projects" link)
North Dakota – No program	N/A	N/A	N/A	N/A	N/A	N/A

Appendix B: EFAB Recommended Financing Program Matrix

Recommendation Description	Advantages	Challenges/Concerns
<p><i>Direct Financing through the State Revolving Fund Program</i> - on a tax-exempt or taxable basis with the municipalities aggregating the homeowner loans and providing a general obligation pledge or other security to meet any personal/homeowner credit concerns.</p>	<ul style="list-style-type: none"> • Below-Market Interest Rate • Economies of Scale relating to the Bond Issuance Costs • Potentially Large Funding Source – depending upon SRF program assets 	<ul style="list-style-type: none"> • Tax Analysis Needed – to determine tax-exempt status; otherwise taxable financing at slightly higher rates • Funding Limitations – due to tax restrictions • Active Involvement of the Municipalities – in aggregating and securing the homeowner loans
<p><i>Water Infrastructure Pooled Loan Financing Program</i> – which is a new funding structure/program and can provide not only a significant amount of funding capacity but also a relatively lower cost for homeowners.</p>	<ul style="list-style-type: none"> • Potentially Lower Cost of Funds – relative to the homeowners' alternative cost of funds • Economies of Scale relating to the Bond Issuance Costs • New Funding Program – expanded funding capacity 	<ul style="list-style-type: none"> • Higher Loan Rates – than the SRF program due to new program status (less number of borrowers and borrower diversity) • Legal Authority may be need – to create this program • Possible Administrative and Staffing Challenges – if managed by SRF staff

<p><i>"PACE"/Tax Lien Financing Program – which is a voluntary contractual assessment that can address any personal/homeowner credit concerns and provide a proven and highly-secured financing structure.</i></p>	<ul style="list-style-type: none"> • Proven and Highly-Secured Financing Structure • Potentially Large Funding Source 	<ul style="list-style-type: none"> • Fannie Mae and Freddie MAC do not provide Financing for PACE-Assessed Properties – thereby affecting future homeowner refinancings • S.838 (if passed) may result in Compliance Concerns with PACE Financings
<p><i>Linked Deposit Loan Program – which provides a simple funding structure that minimizes the states/municipalities' administrative cost/burden and achieves a relatively lower cost for homeowners; and</i></p>	<ul style="list-style-type: none"> • Lower Cost of Funds – relative to the homeowners' alternative cost of funds • Relatively Simple Funding Structure • Administrative Ease – for the homeowners and municipalities 	<ul style="list-style-type: none"> • Financing Benefits are dependent upon Market Rates • Funding Capacity may be Limited and Based upon Interest from Participating Financial Institutions
<p><i>Subsidized Warranty Program – this program in conjunction with other financing programs may reduce the homeowners' ongoing maintenance expenses as well as future replacement costs.</i></p>	<ul style="list-style-type: none"> • Reduce Ongoing Maintenance Expenses and Future Replacement Costs • Interest in Broadening Product by Two National Companies 	