



# Funding and Financing for Improvement Projects in the Wastewater Sector

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U.S. Department of Energy

NGA Water-Energy Nexus Learning Lab

Virtual Format

September 2, 2020

# DOE's Wastewater Energy Management Toolkit

## Building Blocks of Energy Management & Planning

- Energy Data Management
- Measure Evaluation
- **Financing**
- Improvement Planning

**SWIFT**

# Project Financing & Funding Comparison Matrix

## Search Tools



### Project Financing and Funding Comparison Matrix



This quick-reference sheet provides (1) a high-level overview of the general types of financing and funding sources available for wastewater energy efficiency projects, (2) a set of tools to help identify potential financing or funding sources for your project, and (3) a comparison of selected nationally available financing programs.

#### General Types of Wastewater Energy Efficiency Financing and Funding Sources

Financing/Funding Type	Description
<b>Financing Sources (require repayment)</b>	
<b>Bonds</b>	Tax-exempt bonds are a primary source of capital at low-interest rates for infrastructure improvements at wastewater facilities. Bonds are particularly suitable for energy efficiency projects because capital costs can be amortized over the repayment term, enabling bondholders to recover bond payments through energy savings over the life of a project.
<b>Energy Savings Performance Contracts (ESPC)</b>	An ESPC is a partnership with an energy service company (ESCO) or energy service provider that enables project owners to increase energy efficiency and lower energy bills at little-to-no upfront cost. The ESCO develops and implements the ESPC project, and a third party finances the project costs. Typically, the ESCO provides a guarantee that the cost savings from energy efficiency gains will be greater than or equal to the finance payments over the useful life of the equipment.
<b>Leases and Lease-Purchase Agreements</b>	A lease agreement allows a water resource recovery facility to use energy efficiency or renewable energy equipment without purchasing it upfront. The customer enters into a lease agreement with an equipment manufacturer, vendor, or third-party lessor and begins making regular fixed payments after installation is complete. Lease agreements come in various forms (capital, operating, tax-exempt, and solar). Tax-exempt lease agreements are available to public-sector organizations and are cheaper than other forms of leasing due to the preferred tax status they receive.
<b>Loans</b>	Water resource recovery facilities have access to several sources of low-interest loans, many of which explicitly support energy efficiency improvements. Eligibility for these loans may vary depending on the size, location, and other characteristics of the facility.
<b>Public-Private Partnerships</b>	A public-private partnership (P3) in the water sector is a contractual agreement between a public project sponsor and a private entity in which the project sponsor retains ownership of the infrastructure asset and the private entity assumes a larger role in delivering and managing the asset.
<b>Funding Sources (do not require repayment)</b>	
<b>Grants</b>	No repayment required, but often have administrative and reporting requirements. Best practice is not to wait for grants to finance facility upgrades as many grant programs are oversubscribed. However, grants can help improve project economics.
<b>Electric Utility Incentives, Rebates, and Other Assistance</b>	Some electric utilities help pay for energy-efficient equipment upgrades or implementation of water and energy efficiency programs. Water resource recovery facilities can use rebates or other financial assistance offered by electric utilities to offset the costs of these improvements. Electric utilities may also offer services such as energy efficiency assessments to help water resource recovery facilities identify potential energy efficiency improvements.
<b>Electric Utility Rate Restructuring, Fees, and Social Charges</b>	Public benefits funds (PBF) are state-level programs that are intended to provide continued support for energy efficiency and renewable energy programs. PBFs are ratepayer-funded programs, often supported through small charges to electric utility customer bills. Some utilities may support the funds by providing a specified level of contribution (such as based on the utility's gross operating revenue). While relatively few of these programs target water utilities as recipients, a number of local governments have established efforts or pilot programs partnering with PBF-funded programs to promote energy efficiency at water utilities.

#### Tools to Help Identify Potential Financing or Funding Sources for Your Project

**DOE's Better Buildings Financing Navigator**  
<https://betterbuildingsinitiative.energy.gov/financing-navigator>



Online tool helps public and private-sector organizations identify the most appropriate financing solutions for their energy efficiency and renewable energy projects.

**EPA's Water Finance Clearinghouse**  
<https://www.epa.gov/waterfinancecenter/water-finance-clearinghouse>



Online portal designed to help communities locate potential funding sources. The portal consists of a searchable database of funding sources from federal, state, utility, nonprofit, and other public and private organizations. The portal enables users to apply several filter categories and search criteria to find the most relevant opportunities.


**Database of State Incentives for Renewables & Efficiency (DSIRE)**  
<http://www.dsireusa.org/>



A searchable database of information on incentives and policies that support renewable energy and energy efficiency in the United States. Wastewater facilities can use this tool to identify financial incentives such as tax credits, rebates, bonds, loan guarantees, loans, and grants.

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# Project Financing & Funding Comparison Matrix

## Comparison Matrix

## Comparison Criteria

1. Description
2. Eligibility
3. Activities
4. Deadlines
5. Application Requirements
6. Technical Assistance
7. Compatibility Options



Project Financing and Funding Comparison Matrix



Financing Source (website)	Financing Details (ids, terms, interest, etc.)	Eligible Recipients	Eligible Activities	Application/ Execution Timeline	Application Requirements	Technical Assistance Available	Combine w/other funding? (Leverage/ Incentives?)
<a href="http://www.epa.gov/cwrf">Clean Water State Revolving Fund (CWSRF)</a> <a href="http://www.epa.gov/cwrf">http://www.epa.gov/cwrf</a>	<p>Loan Size: Project requirements determined by individual states</p> <p>Loan Term (length): 30 years or the useful life of the project</p> <p>Interest rate/Fees: Vary by loan and state (national weighted average interest rate in 2018 was 1.510%)</p> <p>Grants: States may use up to 30% of their CWSRF funding to provide grants (in the form of principal forgiveness, negative interest rate loans, or grants)</p> <p>Other: Other types of assistance are also available</p>	Municipalities, tribes, or inter-municipal, interstate, and state agencies; non-profit organizations and National Estuary Programs	Energy efficiency is one of the 11 eligible project types	Apply through state programs; states may accept applications on a rolling basis or according to an annual cycle	The project must be on the state's priority list to be eligible to receive assistance; Federal requirements and cross-cutter provisions apply	Yes	Yes
<a href="http://www.eia.gov/finance.cfm">Energy Services Performance Contracting (ESPC)</a>	<p>Financing option in which a third party finances the total cost of the energy improvements based on guaranteed annual savings</p> <p>Interest Rate: Varies, low enough for cost savings to cover finance payments</p> <p>Financing Term: The useful life of equipment, typically 15 to 25 years</p>	Large facilities and groups of facilities are good candidates for ESPCs, including wastewater facilities	Energy efficiency improvements and facility upgrades	Timeline by agreement between project owner and energy service company	State establishes set requirements for government sectors	Yes	Yes
<a href="#">Lease-Purchase Agreements</a>	<p>Flexible financing option that allows a facility to lease energy efficiency or renewable energy equipment from an equipment manufacturer, vendor, or third-party lessor without purchasing it upfront. Customer makes regular fixed payments after installation is complete and may have the option to purchase or return equipment at the end of the contract</p> <p>Interest Rate: Varies, tax-exempt leases result in lower interest rates</p> <p>Financing Term: Typically shorter than 12 years but can extend to 20 years</p> <p>Loan Size: Min. project size \$20 M for large communities and \$5 M for small communities (population of 25,000 or less)</p>	Public-sector organizations and 501(c)(3) organizations such as non-profit water and wastewater organizations	Real or personal property, including energy equipment	No specified timeline	Terms and conditions are state-specific	No	Yes
<a href="http://www.epa.gov/wftr">U.S. EPA Water Infrastructure Finance and Innovation Act (WIFIA) Program</a> <a href="http://www.epa.gov/wftr">http://www.epa.gov/wftr</a>	<p>Interest rate / Fees: Interest rate pegged to U.S. Treasury securities (currently 2.35% on 30-year maturity). Application fee (\$25-\$500) and a credit processing fee (\$250-\$500) apply</p> <p>Loan Term (length): Maximum 35 years</p> <p>Other: WIFIA can fund 68% of eligible project costs. Total federal assistance is 68% of a project's eligible costs</p>	Local/state/tribal and federal government entities; partnerships and joint ventures; corporations and trusts; Clean Water and Drinking Water State Revolving Fund (CWSRF) and DWSRF programs	Development phase activities: construction, reconstruction, rehabilitation, and replacement activities; acquisition of real property or an interest in real property; environmental mitigation, construction contingencies, and acquisition of equipment	(1) Issuance of a Notice of Funding Availability; (2) Applicants submit letters of interest; (3) Selected projects invited to apply; timeline is approximately 6 months	Creditworthiness and dedicated source of revenue; Federal requirements and cross-cutter provisions apply	No	Yes
<a href="http://www.hud.gov/development/blockgrant">U.S. HUD Community Development Block Grant (CDBG) Program</a> <a href="http://www.hud.gov/development/blockgrant">http://www.hud.gov/development/blockgrant</a>	<p>Grant Size: Varies</p> <p>Loan Size: No size limits (typically \$500,000 to \$140 M)</p> <p>Interest rate / Fees: Interest rate pegged to LIBOR + markup (currently 2.79%); fee is a percentage of the principal amount of the guaranteed loan (2.25% for FY2019)</p> <p>Loan Term (length): Maximum 30 years</p>	<p>Settlement Grant Program: Entitlement cities; other metropolitan cities &gt; 500 people; qualified urban counties &gt; 2000 people</p> <p>State Grant Program: Non-entitlement communities and governments</p> <p>Loan: Eligible recipients of the grant programs</p>	Activities that meet one of the national objectives for the program: (1) benefit low- and moderate-income persons, (2) prevent or eliminate slums or blight, or (3) address community development needs having a particular urgency; eligible activities include energy conservation	Grant: Determined by Entitlement: Cities and States; Loan: Determined by HUD Community Planning and Development field offices	Federal requirements and cross-cutter provisions apply	Yes	Yes
<a href="http://www.usda.gov/development/water">USDA Rural Development Water &amp; Wastewater Loan &amp; Grant Program</a> <a href="http://www.usda.gov/development/water">http://www.usda.gov/development/water</a>	<p>Grant Size: Up to 75% or 45% of eligible project costs</p> <p>Loan Size: Based on repayment ability</p> <p>Interest rate / Fees: Three interest rates (2.5%, 3.375%, and 4.25% used June 30, 2020); no upfront fees for direct loan program</p> <p>Loan Term (length): The useful life of the facility or 40 years</p>	<p>Grant: Limited to low-income communities, prioritizing smallest, most needy communities and those with health and compliance issues</p> <p>Loan: Non-for-profit entities, federally recognized tribes, cities, towns, and rural areas under 10,000 population</p>	Eligible activities include, but are not limited to, acquisition, construction, or improvement of drinking water sourcing, treatment, storage, and distribution; sewer collection, transmission, treatment, and disposal; stormwater collection, transmission, and disposal	Rolling application cycle but the best time to apply is October-December	All federal financing must be used for a public purpose; Projects must be financially sustainable	Yes	Yes

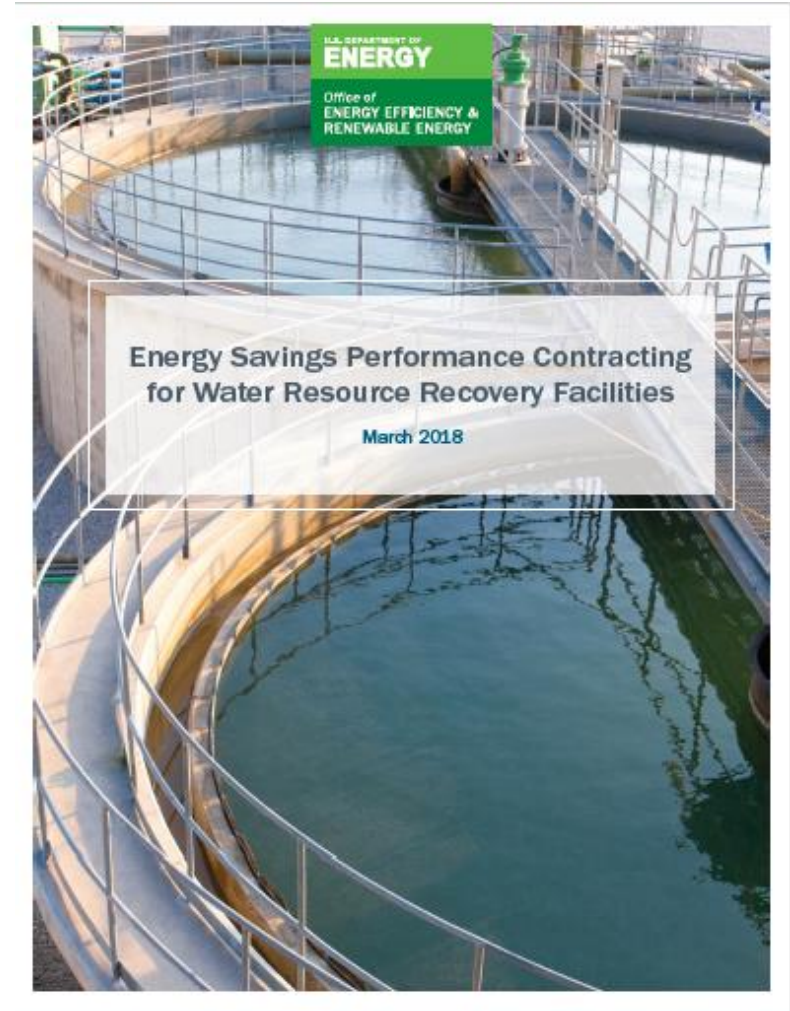
# Financing Funds & Programs

- **Clean Water State Revolving Fund (CWSRF)**
- **EPA Water Infrastructure Finance & Innovation Act (WIFIA) Program**
- **HUD Community Development Block Grant (CDBG) Program**
- **USDA Rural Development Water & Waste Disposal Loan & Grant Program**



# Financing Mechanisms

- **Lease-Purchase Agreements**
- **Energy Savings Performance Contracting (ESPC)**



# Thank You!

## For more information:

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