

Testimony of Chirag Lala to the Joint Standing Committee on Energy, Utilities and Technology in support of LD 1700 An Act to Create a Direct Investment Pilot Project Under the Clean Energy and Sustainability Accelerator

April 23, 2025

Senator Lawrence, and honorable members of the Joint Standing Committee on Energy, Utilities and Technology of the Maine State Legislature,

My name is Chirag Lala and I am the Director of Energy at the Center for Public Enterprise. I am submitting this written testimony in support of LD 1700.

The bill instructs Efficiency Maine Trust (EMT) to provide capital to qualified projects in the form of debt financing credit enhancements; aggregation and warehousing, equity capital, including co-investments; leases; loans; and other financial products approved by the EMT board. This would be undertaken as part of a two-year pilot program (hereafter referred to in this testimony as the EMT Pilot) via the Maine Clean Energy and Sustainability Accelerator and would see EMT utilize no less than \$1 million to provide capital. The EMT Green Bank offers a number of financing programs already, including a C-PACE Program, home energy loans, small business energy loans, loans to participants in the Manufactured (Mobile) Home Initiative to facilitate a switch to whole-home heat pump systems, a municipal lease program, and targeted loan offerings to long-term care facilities. However, **EMT does not currently offer direct financing to developers of clean energy and storage projects despite having the authority to do so. That is what LD 1700 proposes to change.**

Energy projects are typically not financed with one source of financing. Their financing is often described as a “capital stack,” a mix of different financing arrangements whose capital cost and terms vary considerably. If more expensive sources of financing (whether debt or equity) can be replaced by cheaper sources of financing, the project’s overall capital cost (the weighted average cost of capital or WACC) will decrease and it will be easier for investment to proceed. Similarly, if public sources of financing provide capital that is otherwise difficult to procure at any price (such as construction financing), then investment will also be made more likely to succeed. Providing patient and cost effective financing, even if only for a portion of project capital stacks, is the premise behind most public sector financing programs. Cheaper and more patient financing allows a project to undertake investment knowing that a smaller portion of its subsequent revenues will be required to cover debt servicing. (See Figure 1 in the Appendix for an illustration of the capital stack concept.)

Several state and local green banks and financing institutions provide comparable services. Examples are provided below:

- The Connecticut Green Bank provided subordinated debt as part of its early solar leasing programs.¹

¹Renny, J., and S. Malpani. 2019. [Case Study: Solar Lease 2](#). p. 7-8.

- The Connecticut Green Bank's Green Bank Capital Solutions program maintains an open request for proposals for projects needing senior and subordinate loans, loan loss reserves, loan guarantees, other forms of credit enhancement, and equity stakes.²
- The Michigan Saves Climate Fund offers financing of variable terms and at rates 4 to 5 percent for net zero buildings, distributed generation and energy storage, or zero emission transportation.³ Michigan Saves also offers bridge financing for tribal, local government, and nonprofit projects awaiting tax credit disbursement on their solar, battery storage, and geothermal projects.⁴
- The Minnesota Climate Innovation Finance Authority approved a \$4.7 million loan to support a geothermal heating system as part of a St. Paul redevelopment project.⁵

The EMT Pilot is ideally suited to advance clean energy and storage projects in Maine because it is structured in a manner that affords EMT the flexibility to identify projects and use a variety of financial tools to address their various financing needs.

With regard to project identification, the pilot's design would enable EMT to conduct a wide-ranging request for information (RFI) on private, nonprofit, municipal, and tribal projects that would benefit from targeted public financing. The strategy of using public RFIs to solicit details on projects and their financing strategies has been successfully utilized on numerous occasions. The New York Power Authority used an RFI in 2024 to identify opportunities for collaboration with renewable energy developers, contractors, and companies to develop, own, and operate renewable energy systems.⁶ The Colorado Energy Office is currently conducting an RFI process to determine how the financing needs of developers, cities, tribal governments, and nonprofit entities can fit in with available federal and state financing opportunities.⁷ The Connecticut Green Bank goes a step further, maintaining an open request for proposals (RFP) for "Green Bank Capital Solutions" financing for projects or businesses whose needs may not fit its other programs and products.⁸ By using public RFIs or RFPs, EMT could tailor the pilot's financing to evolving market and municipal needs, all while gaining helpful knowledge on the state of clean energy development in Maine. This would be an invaluable resource for its other programs as well as for the Pilot.

If implemented, the EMT Pilot would also provide the state with numerous benefits as it faces a host of evolving energy challenges in the coming years. First, EMT could

² Connecticut Green Bank. [OPEN REQUEST FOR PROPOSALS FOR CLEAN ENERGY & ENVIRONMENTAL INFRASTRUCTURE INVESTMENT](#). p. 3-4.

³ Michigan Saves. [Michigan Saves Climate Fund Facts](#).

⁴ Michigan Saves. [Bridge Financing](#).

⁵ Minnesota Commerce Department. 2024. [Minnesota Climate Innovation Finance Authority approves first loan: \\$4.7 million for an innovative clean energy system at The Heights redevelopment on the eastside of Saint Paul](#).

⁶ New York Power Authority. 2024. [New York Power Authority Issues RFI on Renewable Energy Development Opportunities in New York State](#).

⁷ Colorado Energy Office. [Clean Energy Finance Investigation Request for Information](#).

⁸ Connecticut Green Bank. [green bank capital solutions](#).

aid the state in supporting critical development projects (public or private) using financing from this Pilot. In particular, it would enable EMT to explore the possibilities of both distributed and utility-scale projects and to advance the fortunes of storage development in Maine, a capital intensive resource that will be vital to grid resiliency as Maine faces the twin challenges of load growth and electrification. Second, EMT's involvement could ensure projects more successfully weather difficult conditions in the macroeconomy or in the energy sector—such as rising prices, high interest rates, interconnection challenges, or the impact of adverse policy changes at the federal level. It could do so by lowering projects' WACC and by providing a stable source of financing to complement or even replace more skittish debt or equity options typically utilized by developers. Third, providing financing to clean energy development within Maine would ensure more money generated by the resulting economic activity would remain within the state. EMT would be compensated for the risks it takes with larger and commercial scale ventures. Fourth, the Pilot's ability to lend to all sorts of institutions would help local communities throughout Maine meet their energy needs. This can include efforts such as batteries for public buildings, solar on public rooftops, and a variety of grid upgrades to facilitate electrification within the state.

Finally, the EMT Pilot could form the core of a revolving loan fund (RLF) that would enable the state of Maine to cheaply recycle modest amounts of funding to support the development of numerous energy projects. An RLF consists of an initial capitalization in the form of grants, public lending, or equity to desired projects and a second takeout source of financing. The first, which could be provided by EMT via this Pilot, facilitates project investment through the same mechanisms described above: cheaper costs of capital. Once the project reaches operation, the early capital can be returned to EMT through a second source of financing. This can come from the project refinancing EMT's financial stake using alternative sources of public or private financing. It can also come if EMT or some other Maine agency were given the authority to make fresh loans to projects once they enter operation to recoup the initial financing stake. Project sales could facilitate repayment of this takeout financing, rendering it less risky for EMT than the initial capitalization.

The advantage of an RLF structure is that the initial capitalization can then be redeployed to kickstart additional projects.⁹ The Pilot contains the critical seeds of an RLF. It gives EMT broad authority to undertake financing to projects at various stages of their development cycle. And it provides no hindrances to EMT setting up a secondary lending facility to revolve out initial construction or bridge financing. What EMT would need in future to scale an RLF is funding. EMT could then turn the results from an initial RFI into a pipeline into which projects meeting designated criteria could line up for potential financing. If RLFs are successful, they also generate returns that can, over

⁹ For more information on revolving loan funds and examples from across the country, I have appended the Center for Public Enterprise's [Revolving Loan Funds](#) brief to this testimony. Please feel free to contact my colleagues and I for further information.

time, increase the number of financed projects. (See Figure 2 in the Appendix for an example of how an RLF could aid energy project development.)

I write all this recognizing that LD 1700 is proposing a pilot. As structured, this measure will be temporary and does not obligate EMT to spend more than \$1 million nor to identify projects in a particular manner nor set up an RLF.¹⁰ To fully meet these aspirations, the Pilot would have to one day be made permanent and be provided with additional funding. That said, the EMT Pilot Program is designed to succeed. It provides a critical opportunity to identify where public money can do the most good if EMT chooses to utilize an RFI approach for project identification that green banks and other public entities have used across the country. Using that information, EMT will have the flexibility to respond with a variety of financial solutions to address the needs Mainers themselves express. If EMT sets up an RLF and funding is available, it will be able to do even more to kickstart projects with the money made available to it.

I thank the Committee for this opportunity to testify. If there are any questions following the conclusion of this session, please do not hesitate to contact me or the Center for Public Enterprise.

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Appendix

Figure 1. Simplified project developer capital stacks

¹⁰ If EMT opts to spend more money than \$1 million on the proposed program, it may do so.

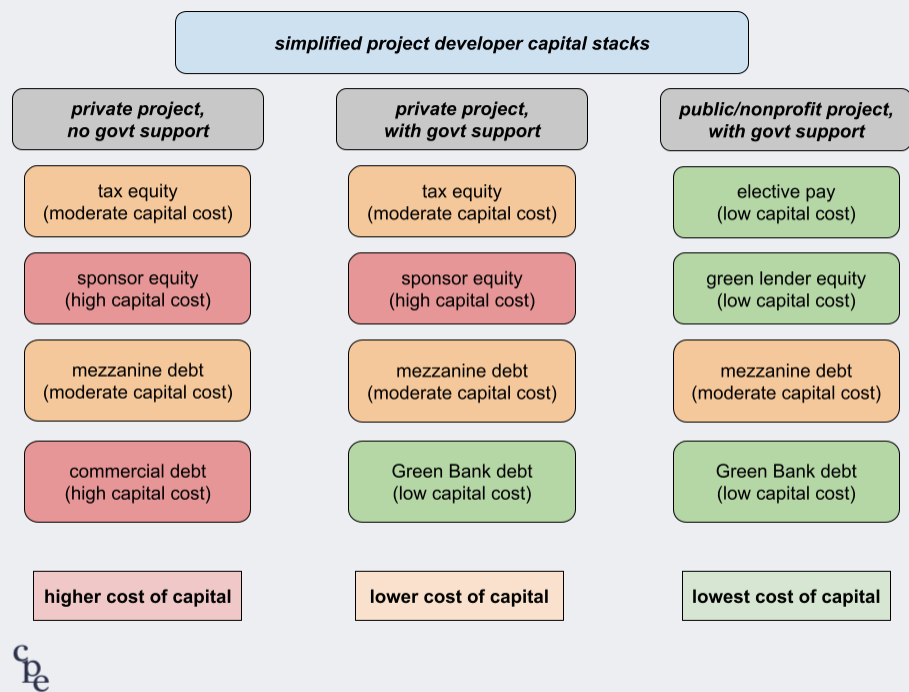
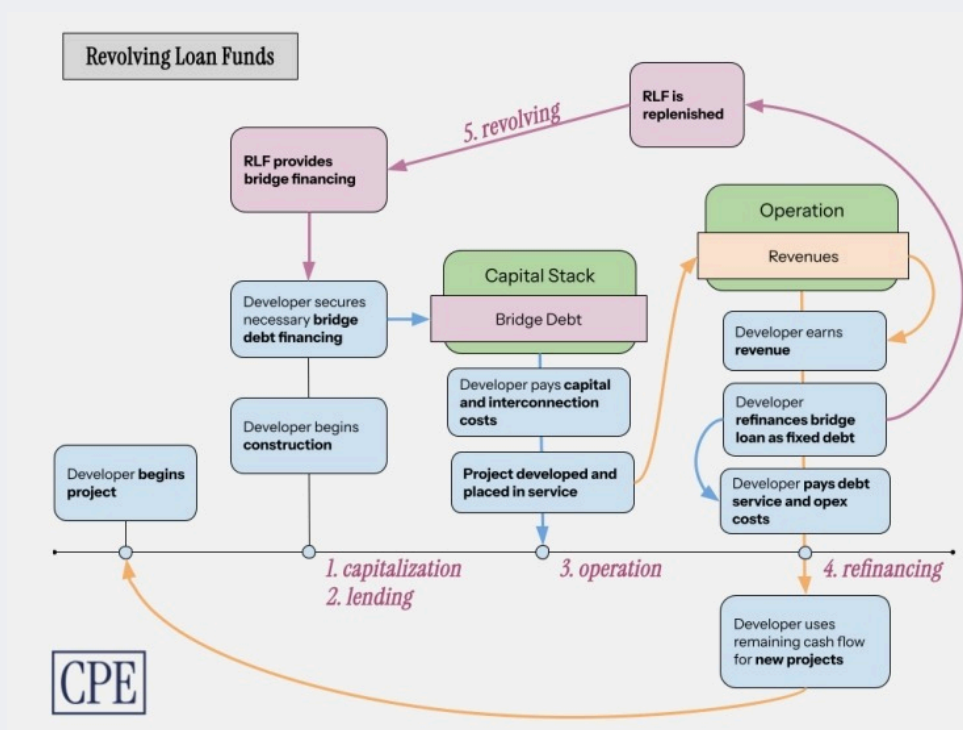
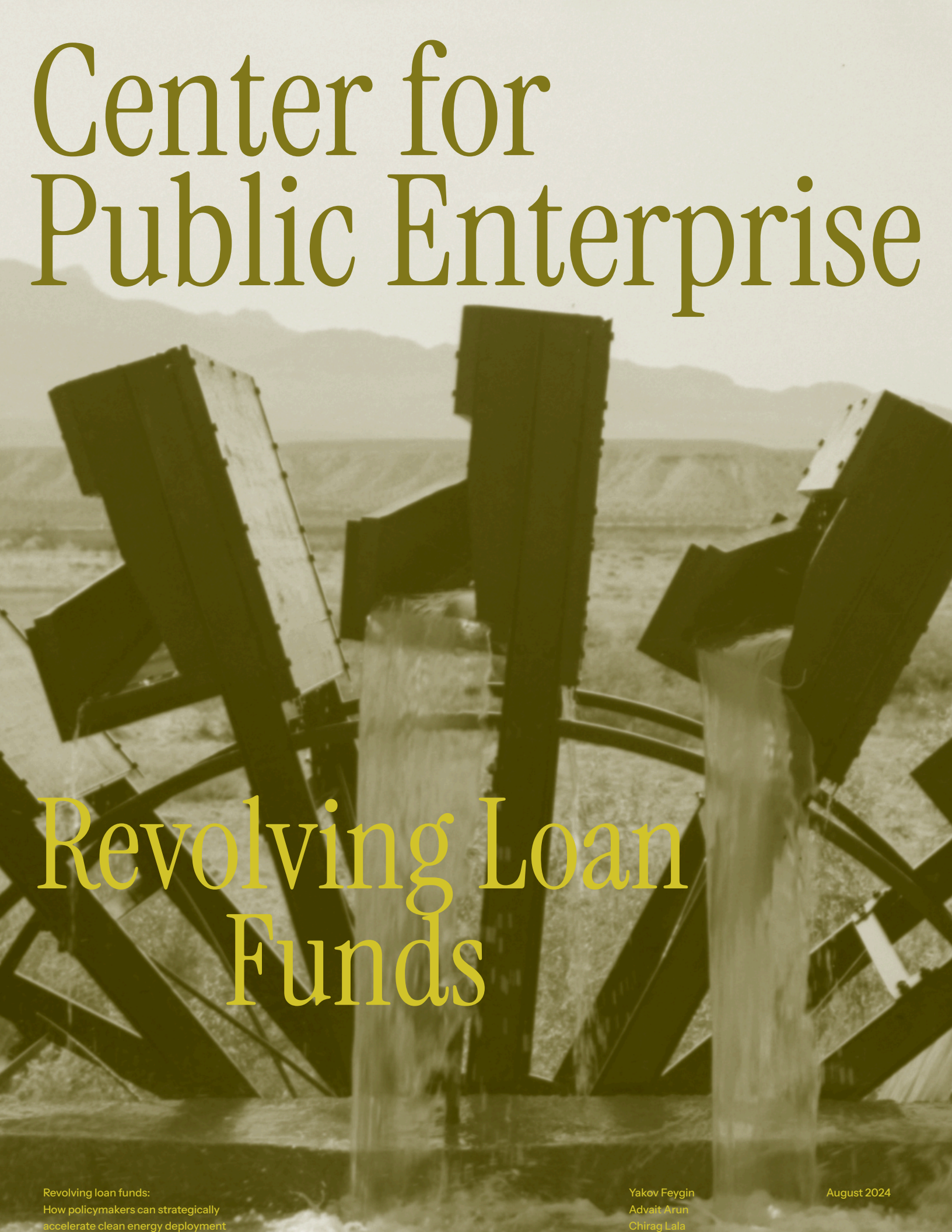


Figure 2. How revolving loan funds aid energy project development



Center for Public Enterprise



Revolving Loan Funds

Revolving loan funds:
How policymakers can strategically
accelerate clean energy deployment

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Revolving loan funds: How policymakers can strategically accelerate clean energy deployment

Executive Summary

Revolving Loan Funds (RLFs) allow governments to speed up and reduce the costs of socially important investments by providing critical pieces of finance that private capital markets are unable to supply at an acceptable rate, while receiving sufficient enough returns to be self-sustaining. RLFs have a crucial role to play in accelerating the energy transition and catalyzing the potential of the Inflation Reduction Acts (IRAs) provisions to enable a greater public role in the energy sector.

In this report, the Center for Public Enterprise (CPE) illustrates the operations and functions of RLFs more generally and explains how they can play a key role in the development of clean energy. We zero in on how states, municipalities, and instrumentalities can use RLF as part of a broader strategy to mobilize IRA resources such as elective pay and loans from federal agencies such as the Department of Energy. Finally, we provide case studies of successful RLFs from very different contexts to illustrate the different strategies that RLFs can pursue and draw conclusions about where they have potential in the clean energy sector and what further steps need to be taken to maximize their impact.

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I. Introduction

Elective pay provides the United States' tax incentives for clean energy development to public power developers, whose lower break-evens allow them to take more risks on energy deployment. Through elective pay, nonprofit and public entities without a tax bill to speak of can receive tax credit disbursements in the form of a direct payment from the IRS. However, elective pay, which can only cover between 30 to 50 percent of a project's capital costs, cannot on its own galvanize the full potential of public power.¹ Public developers will therefore also require additional sources of longer-term, low-cost capital that private market participants may not be in a position to provide. Moreover, elective payments from the IRS take time to process, and they are only issued after a project is operational. This means that elective pay-eligible projects need construction financing to cover costs and payments between when a project enters development and when its developer receives an elective payment from the IRS.

Construction financing is available from private lenders, but it can be expensive—especially as interest rates have risen. This loss of liquidity means that spreads on construction loans for new projects have climbed around 350 basis points (3.5%) above the benchmark secured overnight financing rate (SOFR) since late 2023.² Tight construction finance conditions will blunt the effect of any tax credits. If projects do not secure sufficient upfront financing, capital expenditure will not proceed and tax credits will not be disbursed. These financial conditions especially impact public and nonprofit developers using elective pay. Private developers can sell their tax credits to third parties with large tax bills and free cash—typically large banks—which can provide developers upfront financing at a discount relative to the amount of the tax credit. Critically, this means that both tax equity partners and credit purchasers on transfer markets can finance a project quickly—usually near the end of its construction period, speeding the rollover of costly, short-term construction debt to less expensive, long-term permanent debt. Private developers can secure cash for their tax credits while public entities are waiting for the IRS to approve and process tax credits. Project developers can thus use the proceeds of the monetized tax credits to pay off construction debts.³ Developers preparing elective pay-eligible projects may therefore face construction loans with longer terms and higher interest rates.

Fortunately, states and municipalities have developed policy tools appropriate to solving such a financing challenge: revolving loan funds (RLFs). RLFs allow

¹ These percentages reflect Clean Electricity Investment Tax Credit (ITC) disbursements plus potential bonuses from the uncapped domestic content and energy community bonuses. They also presume a project meets prevailing wage requirements.

² Martin, K. 2024. "[Cost of Capital: 2024 Outlook](#)." Norton Rose Fulbright.

³ Elective pay has a nascent provision that requires claimants to use a special administrative structure to access it—and the IRS may take time to process the payment. See CPE's Elective Pay report: Lala, C. 2023. [Elective Pay: Financing and Capital](#). Center for Public Enterprise.

policymakers to spur investment into priority sectors by substituting concessional state financing for higher-cost private capital, recouping the proceeds and principal, and reinvesting them back into the loan fund. RLFs are thus ideal instruments for short-term positions in project capital stacks, particularly to fill bridge and pre-development financing needs. Reducing these short-term, upfront costs also potentially allows a project developer to refinance the project in different, longer-term markets at a lower rate than it would without RLF's participation.⁴ This means that short-term investments by the public not only pay for themselves but reduce overall development costs, and bring projects that otherwise might never be built to completion.

This issue brief will describe the basic operations of RLFs, pathways for governments to establish them, and the ingredients that make them successful. We then examine how an RLF can be utilized to facilitate the use of the IRA's elective pay tax credits.

II. What are revolving loan funds?

A revolving loan fund (RLF) is an investment fund that makes loans to projects which, at a later date, return the principal and interest to the revolving fund.⁵ Returned funds are then recycled, making loans to other projects. As the Department of Energy puts it, "RLF's can be 'evergreen' sources of capital that are recycled over and over again to fund projects well into the future" as long as default rates remain low⁶

RLF's generally aim to recycle capital quickly. Their short durations make them an ideal tool to finance upfront capital expenditures, which developers can refinance at a lower rate and longer term as projects reach completion and its revenues become more certain. By covering upfront installation and construction costs—construction being the riskiest period of project development—an RLF allows developers to reach a point where they can borrow against installed assets with predictable cash flows to pay off the RLF's construction loan, effectively refinancing the RLF.

A relatively simple model for an energy RLF transaction takes five steps:

1. **Capitalization:** A financial entity, such as a state investment authority, green bank, or a public developer, sets up an RLF to provide bridge loans for the construction of an energy asset. The RLF can be financed by grants, appropriations, windfalls, tax revenues, or other sources of public funds.

⁴ This can happen for multiple reasons. The public sector's commitment of financing can be a signal of viability. A project that would secure relatively cheap term financing may not be able to secure comparably cheap bridge financing. Ergo, allowing more projects through the bridge periods creates new lending opportunities for term financing.

⁵ Strictly speaking, RLFs do not have to make bridge loans. They can deploy any kind of financing product so long as they find a way to recycle/revolve it later on.

⁶ DOE, 2023. "[Revolving Loan Funds](#)."

2. **Lending:** The RLF issues loans to developers that need pre-development or construction financing. These loans can cover some or all of the bridge or construction-period capital stack.
3. **Operation:** The project developer builds the asset using the RLF's loan (and, if applicable, supplementary sources of bridge financing such as down payments or other loans).
4. **Refinancing:** As the project nears operation, the developer searches for new, longer-term financing to pay off the RLF loan. Examples of refinancing sources for clean energy projects include tax credits and long-term energy off-take contracts from future customers, usually known as power purchase agreements (PPAs).⁷ The RLF can facilitate this refinancing operation by providing the term loan itself, through the use of a capital fund that is separated from its main balance sheet—though it need not do so if alternative refinancing options are made available to the developer by other lenders.⁸
5. **Revolving:** The replenished RLF provides bridge financing to a new project, restarting the cycle.

With its return on investment recouped in step 3, the RLF can lend to additional projects in step 5. This process is depicted in [Figure 1](#) below. (For a T-Chart depiction of an RLF, see the [Appendix](#).) Over time, RLFs can grow from the debt service payments they earn. That growth is slow—but fast balance sheet growth isn't the goal. Rather, a successful RLF's main aim is to revolve as quickly as possible to ensure as many new projects as possible get built; achieving this goal requires taking on risks to finance projects that either fail to secure private bridge financing or to substitute for more expensive sources of bridge financing. Any critical energy project that cannot get built thanks to inadequate financing is a policy failure; RLFs help policymakers avoid this outcome.

A developer can often pair an RLF with another piece of longer-term financing funded by a private sector partner, or a public entity with a longer investment horizon, at the outset of project development. For example, public authorities in states with Commercial Property Assessment Clean Energy (C-PACE) programs can use an RLF to originate loans for commercial building energy retrofits against the promise of

⁷ Usually developers will try to secure some PPAs from "anchor" clients as early as possible, likely before the end of construction, to reduce their overall financing costs.

⁸ For example, the RLF can use its balance sheet to start a project with bridge financing, and get it to a point where it generates cash flow. The RLF could then use a bond issuance; a separate capital fund seeded by outside investors, appropriations, and philanthropists; or additional space on its balance sheet to refinance the developer's debt.

property tax-backed repayments.⁹ Upon the completion of the retrofit, the authority will sell the loan to an investor with an appetite for longer-duration debt and use the sale proceeds to recapitalize the public authority's loan fund.

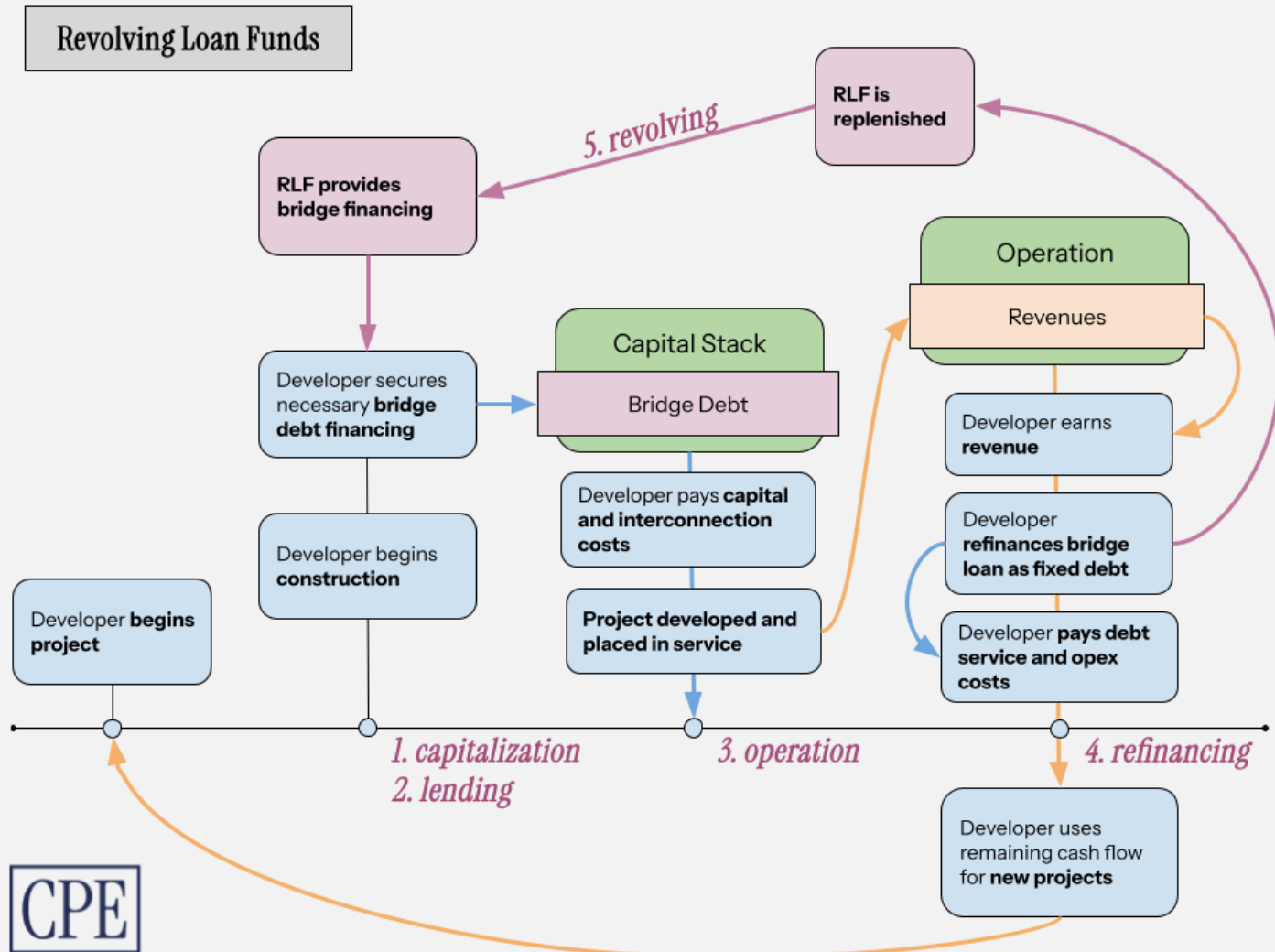


Figure 1. How a revolving loan fund revolves.

RLFs lower costs and thereby catalyze project development. Construction financing tends to be more expensive than long-term permanent debt because it covers the riskiest period of a project's life-cycle. A project's pre-development and construction phases are when sectoral, supply-chain, and policy-specific idiosyncrasies can heavily influence whether construction even succeeds. However, it is also the shortest period of a project's life-cycle which means that this loan will only last a few years at most and

⁹ C-PACE programs allow a property owner to take on a voluntary tax assessment against their property and thus pay off their loan as part of their tax bill, effectively creating a lien against the property, thereby lowering long term refinancing costs.

can be refinanced by longer-term, cheaper debt once assets are placed in service. By reducing the upfront cost of building a project, an RLF decreases the project's long-term loan-to-value ratio, thereby contributing to further cost savings at the refinancing phase.

III. Establishing an RLF

Public authorities at any level of government are well-placed to seed RLFs or complementary capital funds if they have spare cash from windfall revenues or federal grants on hand. Public authorities could use their balance sheets as the revolving fund—channeling asset income into new loans—or, in more complex arrangements, set up an external, off-balance-sheet financial entity, likely a special purpose vehicle (SPV), to do the same.¹⁰

An RLF should not be understood as a traditional one-time expenditure like a grant. That is, money spent seeding an RLF does not go away; RLFs earn a return on their investment while recycling capital repeatedly to execute their main mission: bringing multiple projects to the finish line.¹¹ Because an RLF loan retains its value, so long as it is repaid, it remains as an essential source of support for new projects. RLFs are, therefore, an ideal place for governments to park windfall revenues, or rents from publicly owned assets such as land and natural resources, and to invest those revenues into projects that target long-term social outcomes—particularly if governments have extra revenue that they would otherwise forgo if they do not spend it by the end of their fiscal year. Governments contemplating how to utilize unexpected budget windfalls and manage income sources—including grants for investment, federal fiscal assistance (for example, one-time pandemic relief funds disbursed to local and state governments), and philanthropic contributions—should seriously consider seeding or expanding RLFs that advance their desired outcomes.¹² It is better to recycle these limited funding sources than deploy them only once.¹³

Once RLFs are established, whether by grants or bonds, they do not necessarily need to rely on further appropriations to continue functioning. However, one-time

¹⁰ Arun, A., Y. Feygin. 2024. [Augmenting the “SEFI Carveout”: How Special Purpose Vehicles Can Facilitate Large Project Pipelines](#). Center for Public Enterprise.

¹¹ Different revolving funds could target different parts of the development cycle. Longer-term RLFs can see projects through different periods of their life cycle, recouping themselves through dividends and debt service payments until they exit their position in the project's capital stack.

¹² This is not a suggestion for governments to replace/supplant ordinary capital budgeting procedures. Rather, this is a recommendation that governments think creatively about preserving, leveraging, and recycling one-time appropriations.

¹³ To that end, policymakers considering RLFs should be aware of appropriation or fiscal rules that may prevent them from using funding sources or structuring RLFs in certain ways. Those rules should be altered, or different capital sources found, or both. Ultimately, RLFs are not a substitute for supporting capital expenditure by states. Instead, they are a tool to facilitate strategic or desirable investments that policymakers have decided upon.

appropriations or smaller regular appropriations can go a long way to growing or seeding an effective fund while signaling public support for its activities to counterparties and to its administrators.¹⁴ Successful RLFs can also grow over time as they earn income. The larger a revolving fund gets, the more projects it can support. Governments targeting particular project outcomes should scale their RLFs relatively quickly.

IV. Ingredients of a successful RLF

Like many other financial structures, revolving funds rely on both creditors and asset income to remain financially sustainable. They have six key ingredients, also depicted in [Figure 2](#), below:

1. **Public lender** providing the initial bridge/construction financing
2. **Additional or supplementary finance**
3. **Project developer(s)**
4. **Project(s)**
5. **Source(s) of income** for project(s)
6. **Source(s) of “term financing”** for the developer to close the bridge loan, allowing the public lender to exit their bridge financing position by **refinancing it quickly**. The project developer sees their short-term bridge debt replaced by longer-duration **term debt**.

¹⁴ Governments can structure RLF capitalization to ensure certain project types are always targeted or that the RLF can target multiple projects with financing going out at desirable intervals.

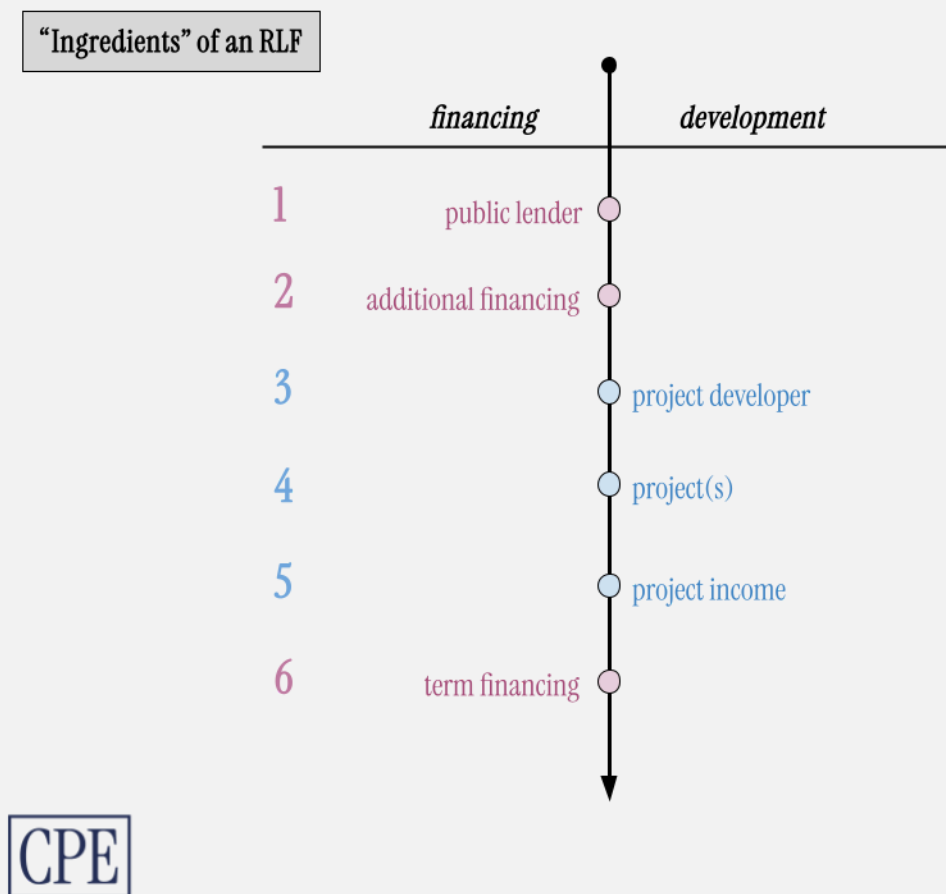


Figure 2. *Ingredients of a successful RLF.*

For governments to create a revolving fund, they need only set up a public lender (Ingredient 1). An RLF can be established by a public bank or simply as a fund administered by a particular department. If that is all the government does, staff must then work to locate or identify or mobilize the other ingredients such that 1) the RLF can support the development of a project to the point where it earns an income and 2) the project can secure additional financing to repay the RLF’s initial loan. An RLF will not revolve if projects fail to complement bridge financing with other capital sources (Ingredients 1, 2).¹⁵ Nor will RLFs revolve without another source of capital, public or private, to facilitate the project’s switch from bridge debt to term debt. (Ingredient 6). Finally, an RLF will not revolve without either the project or its developer having an income or some other means to pay back or backstop the switch to term debt (Ingredients 3, 4, 5). Policymakers would do well to ensure that their RLFs suffer from none of these pitfalls by actively identifying new potential projects, standardizing developers’ debt structures, providing technical expertise to ensure that these projects

¹⁵ There are cases of revolving funds where the initial loan covers the entire cost of a project. However, in many cases, bridge financing is itself a capital stack of many co-investors and financing products. The state can provide all or some of that capital stack.

close on their financing and actually get developed, and, where energy projects are concerned, promoting better energy market design.¹⁶ They can also utilize multiple financial tools at their disposal to function as or facilitate the emergence of key ingredients from the above list.

V. Enabling elective pay with RLF lending

The Inflation Reduction Act's elective pay provisions make it significantly easier for policymakers to set up financially sustainable revolving funds specifically designed to support publicly owned and non-profit clean energy developers.¹⁷ An RLF used to provide construction financing to elective pay-eligible projects could revolve as soon as the IRS issues an elective payment to the project developer.

A revolving fund structure for an elective pay-eligible project might work like this:

1. A financial entity, such as a state investment authority, green bank, or a public developer itself, provides bridge financing from its RLF to a public or nonprofit energy developer, for the construction of a clean energy-generating asset.
2. The project developer builds the asset, makes an elective pay election, places the project in service, and earns revenue.¹⁸ After the project is placed in service, the developer receives an elective payment from the IRS. (Let us assume that this elective payment is for the investment tax credit, or ITC, which covers between 30–50 percent of the project's capital expenditures.)
3. The developer uses a combination of elective payment and revenue (from wholesale market revenues, rate payments, or PPA revenue) to buy out and refinance the RLF's construction bridge debt.
4. The funds are returned to the RLF, which can make further loans to new projects.

This structure implies that the RLF is a public lender with capital enough to provide bridge financing (Ingredient 1), and that it is lending to project developers whose projects have cash flow from energy savings, electricity sales, and elective payment (Ingredients 3, 4, 5). It is not implied that this RLF has additional financing to fill a project's entire capital (Ingredient 2) stack, or that the RLF can refinance its position in a project (Ingredient 6). These ingredients do not have to be provided by the RLF; they can instead be supplied instead by a co-lender like the Loan Programs Office, which

¹⁶ For a discussion of how to familiarize market participants with loans to energy projects, read our underwriting series: Arun, A. 2024. "[Overreading Into Underwriting](#)." Center for Public Enterprise.

¹⁷ For a deeper dive into how elective pay works, read our Elective Pay Financing report: Lala, C. 2023. "[Elective Pay: Financing and Capital](#)." Center for Public Enterprise.

¹⁸ For a guide to this elective pay election process, read our IRS Direct Pay Portal Walkthrough: Arun, A. 2024. "[IRS Direct Pay Portal Walkthrough](#)." Center for Public Enterprise.

can use its Title 17 financing to provide long-term senior debt, or, more ambitiously, by a Greenhouse Gas Reduction Fund-supported seed fund that can buy out an RLF's stake in any individual project.¹⁹

which project development participants can provide which RLF ingredients?	“ingredients”						and why?
	1 public lender (bridge debt)	2 additional financing	3 project developer	4 project(s)	5 project income (elective pay)	6 term financing (refinancing)	
public lender	✓	✓				✓	public lenders can tolerate longer-term and higher-risk borrowing
private lender	✗	✓				✓	private lenders do not provide adequate bridge financing
public developer			✓	✓	✓		public developers can access elective pay
private developer			✓	✓	✗		private developers can't use elective pay
consumer or power purchaser	✗	✗	✗	✗	✓	✗	energy market participants buy power, providing income

Figure 3. Which potential project development participants can provide which ingredients in an RLF, and why? Note that the figure does not contain strict distinctions among project participants. That being said, even if a project's financier and its lead developer are the same entity—e.g., a housing finance agency—the entity's financing functions are distinct from its project development functions.

Figure 3, above, clarifies the different roles that public and private entities can play in the process of capitalizing and deploying an elective pay-backed RLF. Public lenders are essential for providing bridge financing because private market participants often fail to provide construction bridge financing on terms safe for project developers. (Private market participants can still co-invest in the remainder of the project's capital stack.) Elective pay ensures that this RLF successfully revolves faster or on better terms, and can only be earned by public-sector and nonprofit developers.²⁰ These

¹⁹ For a deeper dive into how the Loan Programs Office can provide long-term debt financing to developers, read our SEFI Carveout deep dive: Arun, A. 2023. [The SEFI Carveout](#). Center for Public Enterprise.

²⁰ IRS rules limiting “chaining” prevent this same RLF model from succeeding for private developers, which can earn investment tax credits (ITCs) and trade them at a discount to a tax equity co-investor or on new tax credit transfer markets. That is not to say that an RLF could not be developed for private developers, but it would not work with the model presented above.

projects also earn income beyond just elective pay: wholesale energy market participants including distribution utilities, corporations, and community choice aggregators provide a conventional income stream through power purchase agreements and/or spot purchases.

VI. A successful pedigree

This section highlights three example revolving loan fund programs, from Texas, Maine, and New Mexico. The structure of each program is similar in design—but each RLF targets very different goals. Policymakers should treat these examples as models for the kind of programs they can design to support energy investments.

The Texas Permanent School Fund

The Texas Permanent School Fund (TPSF) is a state sovereign wealth fund, which is seeded by revenues generated from royalties on the sales of grazing, mineral prospecting, and oil and gas development rights on publicly owned lands.²¹ The TPSF takes the income streams from these royalties and acquires long-term capital market assets and other equities. The interest and dividends earned on these assets and equities is transferred to Texas' school districts. The TPSF, which stands outside Texas's traditional budget process, is technically self-financing. The majority of the Fund's revenues are disbursed as direct cash payments to the school districts based on a proportion of their daily school attendance.

Notably, the TPSF also runs an implicit RLF through its Bond Guarantee Program (BGP). The BGP allows school districts with credit ratings below AAA to have their debt guaranteed at the Permanent School Fund's AAA rating (which is itself backed by the TPSF's assets), thereby lowering their cost of borrowing on the municipal bond market. Borrowers are given an effective loan guarantee from the state: if the district defaults, the state will cover its remaining payments to creditors.

The BGP functions as seed capital for projects (Ingredient 1). The TPSF allows the school district to issue bonds for their entire school construction capital stacks at a lower interest rate than their credit rating would otherwise imply (ingredients 1 and 2). The district then acts as a developer and makes capital investments in new projects, such as building and repairing school facilities or funding new educational programs (ingredients 3 and 4), which are paid back out of tax revenues (ingredient 5). Thanks to the bond's higher credit rating, school district residents have lower tax burdens relative to the alternative where their district cannot access TPSF leverage. An additional source of revenue for the school district is the potential long-run savings from the projects it develops. Greater savings raise the relative value of the district's tax revenue

²¹ Texas' accession into the United States created a constitutional quirk wherein the state controls all public land in Texas. There are no federal lands.

versus the cost of borrowing. The fund is made whole (ingredient 6) if the district does not default and the loan guarantee is not tapped.

The BGP is an implicit RLF because there is no source of capital that is actively revolving; rather, the TPSF reassigns its capital to new guarantees as old school bond issuances are paid off. The BGP constitutes a mechanism for smooth and steady borrowing for a vital public need: education. This is a mechanism that would not otherwise exist without the TPSF's balance sheet, its revenues, and its credit rating. Since the guarantee program began in 1983, it has not seen a single default. This is because, like most successful RLFs, the BGP conducts extensive due diligence on its applicants and requires an upfront \$1,500 processing fee to cover these costs.

The Clean Water and Drinking Water State Revolving Funds

The Environmental Protection Agency has run the Clean Water and Drinking Water State Revolving Loan Fund programs (known as the SRFs; CWSRF and DWSRF, respectively), since 1987. Congress massively recapitalized both through the Bipartisan Infrastructure Law. These federal appropriations are provided as grants to state governments, which must use them to capitalize and administer revolving funds for eligible water-related infrastructure projects. The federal government sets eligibility criteria; state governments administer funds and run the loan programs.

States have the authority to make concessional loans, refinance or guarantee municipalities' project debts, and borrow against their capitalization to make additional loans. Insofar as the federal government expects states to keep their SRFs solvent, SRFs are expected to use revenues from the principal and interest repayments of individual projects to back new loans and guarantees to subsequent projects. States can run their SRFs through their own financing instrumentalities, such as bond banks, and set their own project eligibility and loan issuance criteria.

The Maine Municipal Bond Bank, for example, runs the state's CWSRF program: it receives financing from the federal government (Ingredient 1), which it blends with its own financing (Ingredient 2). The Bond Bank has its own set of eligible project developers (Ingredient 3), usually municipalities, that it lends to for eligible water management projects (Ingredient 4). The Bond Bank ensures that eligible borrowers are able to repay over the term of their loans (Ingredient 5) and, if the borrower does not default, the loan principal and interest are repaid (Ingredient 6).

This simplified description of how the CWSRF works at the state-level obscures the impressive level of capacity that the Bond Bank requires to run this program alongside and sometimes blended into its additional, non-federally backed pooled bond program; it also airbrushes the different kinds of financing options the Bond Bank can provide

through the CWSRF.²² Maine's high level of capacity allows it to optimize federal funding to provide multiple ingredients necessary for successful development. Maine's program expands on the pool capital available from the CWSRF program by blending it with loans backed by its own borrowing against its portfolio of existing loans to localities. Thanks to the Bond Bank's AAA rating, its market-rate loans are much cheaper than other issuers' market-rate loans. The Main Municipal Bond Bank issues a zero percent loan backed by federal CWSRF grant alongside its own loans supported by capital market borrowing, expanding the total available volume of funding while retaining a highly concessionary rate.

In 2023, the Maine Municipal Bond Bank's CWSRF program supported 25 water projects worth around \$52 million; the Maine Forest Service, which has the most projects seeking CWSRF financing in its pipeline, and the Portland Water System, which has the most expensive projects, dominated the Bond Bank's CWSRF program's 2023 pipeline.²³

New Mexico Finance Authority's Public Project Revolving Fund

The New Mexico Finance Authority (NMFA) is a state financing instrumentality created in 1992 to finance infrastructure projects for local governments and state departments (Ingredient 3, 4). Its flagship program is the Public Project Revolving Fund (PPRF). The PPRF provides both market- and subsidized-loans (Ingredient 1) to projects including roadworks, water system upgrades, public buildings, hospitals and other healthcare facilities, utilities, and other similar facilities.

The Finance Authority replenishes its RLF by issuing tax-exempt bonds (Ingredient 6). Project income (Ingredient 5) repays the NMFA, which in turn redirects those payments to repaying proceeds on the tax-exempt bonds. The NMFA's borrowing capacity and credit rating are maintained at AAA due to its diverse range of borrowers and annual transfers to the NMFA from New Mexico's Governmental Gross Receipts Tax. In turn, local and state governments are able to finance capital projects more cheaply.

VII. A public development revolution

RLFs offer states, municipalities, and their instrumentalities a powerful tool with which to catalyze new development. RLFs break down the financial barriers that many developers face when they wish to engage in new projects. This is especially the case for public-interest projects, which often face additional hurdles to securing financing

²² Most publicly available information about the structure and authorities of Maine's CWSRF is available through Maine's Department of Environmental Protection: Maine Department of Environmental Protection. 2024. "[Clean Water State Revolving Fund \(CWSRF\)](#)."

²³ Maine Municipal Bond Bank & Maine Department of Environmental Protection. 2023. [State of Maine Clean Water State Revolving Fund: Annual Report for Fiscal Year 2023](#).

and reaching completion. RLFs can also act as significant sweeteners for private developers to enter deals to support projects, thereby advancing crucial policy goals such as decarbonization. Even more ambitiously, RLFs can allow state entities to leverage public funding sources to finance projects that the private sector cannot. The passage of the IRA has opened the window for a new wave of public energy development, particularly for clean energy.

However, establishing RLFs requires governments to rethink their relationship to capital markets and the broader process of project development. Governments must first identify their points of leverage: how does their position as public entities create opportunities for tax and financing support, and what unique resources do they have that they can tap as revenue streams? Policymakers should also familiarize themselves with the idiosyncratic project development processes specific to critical sectors, and how investments in each are financed across their many phases. This way, they will be able to identify granular financing bottlenecks that they can resolve through infusions of cheaper, patient public capital. Achieving this goal will require building the internal underwriting and community engagement capacity required to identify investment gaps and local needs, conduct due diligence on developers, and, if needed, initiate the project development process themselves. But the benefits are worth it!

An important caveat is this: many successful RLFs operate in well-established, relatively deep markets, like in municipal and school finance. The existing liquidity in those markets allows public developers to easily find co-lenders and longer-term capital market investors who want to refinance RLFs' lending (Ingredients 2, 6). But the efficiencies of these markets are not a "natural" result of capitalism: they are a policy outcome.²⁴ Water finance is heavily backstopped by the federal government's water finance instrumentalities, and school bonds are legally tax-exempt at state and federal levels, too.²⁵ Federal interventions could further develop secondary markets for debt from renewable and clean energy projects, and recent public investments in infrastructure and energy offer new opportunities to augment or create RLF programs with these secondary market facilities.

The good news is that even the process of setting up an RLF can, over time, help governments develop and deepen their knowledge and capacity. The more the RLF

²⁴ For a broader discussion of the role liquid secondary markets play in enabling investment, read part 2 of CPE's series on underwriting: Arun, A. 2024. "[Overreading Into Underwriting](#)," Center for Public Enterprise.

²⁵ For example, the TPSF can only operate its BGP program due an agreement with the IRS to create exemptions from arbitrage rules that govern tax-exempt municipal debt, which capped the value of bonds that the Fund could guarantee to 3.5 times its total asset value. In 2022, due to rapid population growth and the need for new schools, the fund approached its limits, risking tax increases, until the IRS issued new guidance expanding the BGP program's leverage to 5 times its asset value in May 2023. For more information, see: Lopez, B. 2022. "[A Texas Program that Backs School District Debt is Reaching its Debt – And that Could Mean New Taxes](#)"; The Texas Tribune; Texas Education Agency. 2023. "[Press Release: IRS Action Increases Bond Guarantee Capacity](#)."

engages in its lending, and the more it organically grows, the more its administrators learn about the broader market and industry it is operating in. One way to do this is for RLFs to work with other federal and state agencies to provide other ingredients necessary to their success. A public developer can commit to projects for the RLF to fund; public power agencies or community aggregators can provide a ready off-taker or income source to RLF projects; and additional public capital can be set aside to ensure public projects can access longer term financing. Just because an RLF only requires the initial seed capital does not mean governments have to rely solely on the private sector to provide those other ingredients.

If governments are committed to using RLFs to their full potential, they can make other direct interventions to revolve them over time, even building a case to appropriate additional sums. Through operating RLFs, their administrators develop the soft skills and coordination mechanisms necessary for executing successful development policies and meeting legislative priorities. The more RLF administrators learn and take on, the more capable the public sector becomes, and the more capacity governments have to directly tackle economic development objectives. Institutions like RLFs do not just help projects reach the finish line and reduce their financing costs—they allow for “learning by doing” across a range of public and private entities through which critical asset markets are formed and deepened.

VIII. Appendix

Following the schematic laid out in [Figure 1](#), here is our “T-Chart” depiction of how an RLF proceeds from project development to capital recycling:

Period:	RLF		Project Developer	
1: Capitalization 2: Lending	Assets	Liabilities	Assets	Liabilities
<i>flow</i>				
<i>stock</i>		Bridge Loan	Bridge Loan	
3: Operation	A	L	A	L
<i>flow</i>	+Bridge Loan Debt Service		+Income	-Bridge Loan Debt Service
<i>stock</i>		Bridge Loan	Bridge Loan	
4: Refinancing	A	L	A	L
<i>flow</i>			+Income	-Term Loan Debt Service
<i>stock</i>			Term Loan (from Third Party)	
<i>stock</i>		Bridge Loan	Bridge Loan	
5: Revolving	A	L	A	L
<i>flow</i>			+Income	-Term Loan Debt Service
<i>stock</i>			Term Loan (from Third Party)	
<i>stock</i>		New Bridge Loan		

Figure 4. How a revolving loan fund revolves—depicted using an accounting T-Chart.

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