National Renewable Energy Laboratory
Innovation for Our Energy Future

Revolving Loan Funds
"Basics and Best Practices"

TAP Webinar

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Overview

Purpose:

- To inform state and local officials about revolving loan funds and how to set one up

Agenda:

- Summary
- Existing Programs
- RLF Structure
- Loan Process
- ARRA Opportunity
- How to Setup an RLF
- Best Practices
- Risk Management
- Results

Summary

- A revolving loan fund (RLF) is a source of money from which loans are made. As loans are repaid, additional loans are made
- **Benefits**
  - Helps encourage investment in efficiency and renewable energy
    - Information and technical assistance reduces transaction costs
    - Provides access to capital
    - Typically results in reduced borrowing costs
  - Helps creates jobs
  - Reduces energy consumption and provides environmental benefits
  - Can leverage existing capabilities of energy programs
- **Considerations**
  - Other programs could have higher impact: $ / BTU
  - Only one of many sources of capital
  - Prudent risk management needed to ensure longevity of fund
- **Conclusion: RLF's are a good use of ARRA capital inflow**
  - Not subject to ARRA fund expiration
  - Limited program administration and staffing requirements compared to other uses of funds

Existing Programs

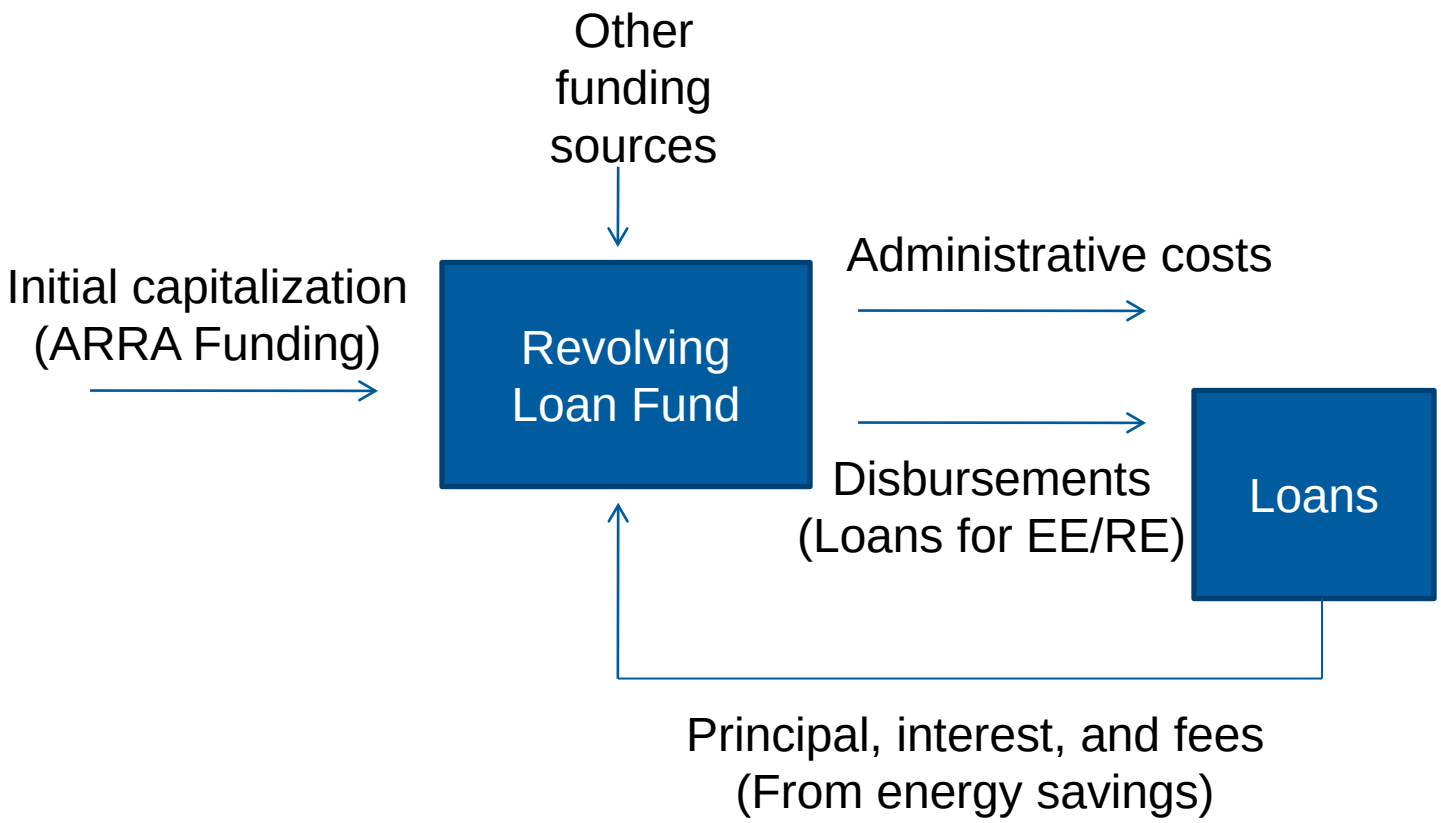
- There are a large number of existing energy loan programs for both EE and RE
- For energy efficiency (EE)
  - 29 states have state level programs
  - 34 states have utility operated programs
  - 5 states have municipal programs
  - Some have hybrid programs that combine public and private sector

Program Types	Funding Sources	Loan Types	Loan Recipients
• Interest rate buy down • Grants • Loans • Revolving loan funds	• Legislation • Bonds • Violation funds • Multi tier	• Efficiency • Renewables • Combination • Vehicle	• Residential • Government • Schools • Commercial • Industry

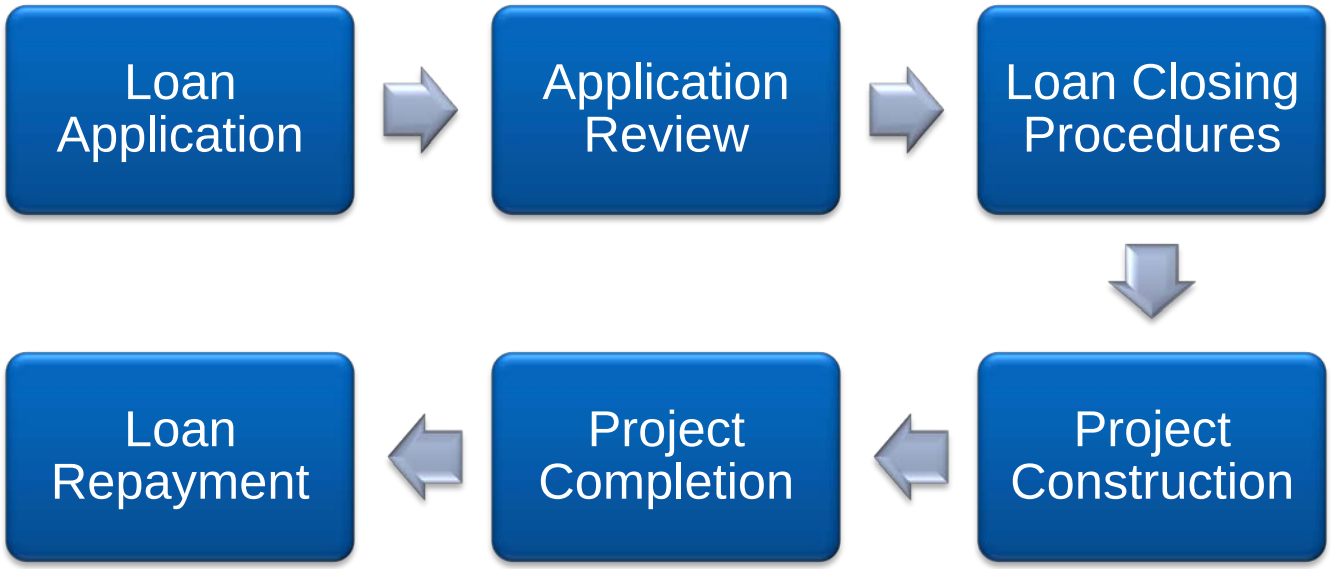
Existing programs vary substantially

Source: DSIRE Web Database (http://www.dsireusa.org/summarytables/finee.cfm)

RLF Basic Structure



Loan Process Overview



The process should be customized for each program

The ARRA Opportunity

RLF's are an accepted and encouraged use of ARRA funding

- $3.4 B for SEP
- $3.5 B EECGB
- $5.0 B for WIP

RLF funds not subject to expiration after the current three year ARRA timeframe

- Must be lent out in 3 year period
- Repayment over additional years

Money recaptured through loan payments must be used for the same purpose

- Unless approved by DOE
- Eligibility and procurement must meet program requirements

RFL's Extend the Impact of ARRA Funds

Starting an RLF: Begin With The Basics

Review existing programs in your state

- Energy loan programs and other RLF's like EPA programs
- Look to leverage expertise and knowledge

Determine a clear purposes and goal for your RLF

- e.g. To increase small business energy efficiency investment
- e.g. Annual savings of $200,000 and 2 M kWh

Determine the allowed / prohibited uses of funds

- e.g. Allowed: Building energy efficiency investments
- e.g. Prohibited: Costs of obtaining financing

Determine Requirements

Borrowers

- Eligibility
- Reporting
- Insurance or collateral
- Repayment

Loan terms.

- Maximum length
- Max and min loan amounts
- % of project funding that loan can be used for
- Administrative fees
- Interest rates

Program Forms

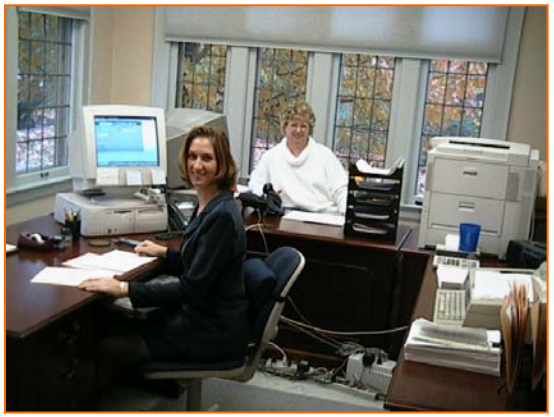
- Loan application
- Loan disbursement
- Reporting
- M&V

Finalize Program Details

- Staffing considerations
  - Who will be responsible for the program
  - Administrative duties, staffing requirements, and skill sets needed
  - Setup a committee to review loan applications
  - Leverage existing expertise from other agencies or the private sector
- Define matrix for selecting projects
  - e.g. ranking by payback or energy savings
  - States are encouraged to setup programs that save at least 10 million BTU per $1000 spent

Program Operation

- Capitalize with funds
- Market and promote the RLF
- Provide loans and technical assistance to borrowers
- Track and monitor existing loans
- Track and monitor progress towards program goals
- Offer assistance to borrowers
- Communicate success of program



Standardization versus Customization

- National harmonization of terms, approval procedures, M&V, etc, between programs could allow for packaging of loans

Potential Positives:

- Allows for assets tiers and simplified loan tracking
- Increased impact of programs through leveraging
- Increased efficiency and renewable energy investment
- Reduced transaction costs

Potential Negatives:

- Could stifle innovation
- Reduced ability to customize program
- Reduced potential program flexibility for borrowers
- Risk and return are difficult to standardize for efficiency

Risk Management

- Insure that loans are properly secured or guaranteed
  - OMB A-87 states that losses constitute an unallowable cost
  - Losses must be covered by non-federal funds
  - **Recommend: Loan guarantee component in each RLF**
- Familiarity with borrowers and technical assistance helps to prevent delinquencies
- In energy efficiency proper characterization of the improvements to be made to save energy is crucial
  - Due diligence is essential to verify engineering estimates
  - Monitoring and verification is important to dispute resolution
- Fees and rates must be set properly to prevent erosion of capital base

Proper risk management is a key driver of program success

Best Practices

- Customize program to the needs of target audience
- Start with a user-friendly approach plus simple policies and procedures
  - Will be a great help to program marketing and subscription
- Clearly define program goals and mission
- Provide good technical assistance to borrowers
- Invest in information technology and staff capacity
- Make borrowers aware of other financing sources and risks
- Inform borrowers of other energy programs that may be of interest and leverage overlapping capabilities

A well designed program will help people save time, money, and energy

Source: Adapted from “Housing Assistance Council Best Practices in Revolving Loan Funds”

Results

- ~ $1 B in loans made by SEP of Oregon, Texas, and Nebraska combined to date
- Average for these programs across all sectors is ~ 15 million source BTUs per $1000 dollar loaned[1]
- Average simple pack back ~ 8.7 yrs
- Specific results vary due to the heterogeneity of energy investments, energy prices, and incentive programs
  - HVAC, commissioning, lighting, solar, wind, etc

Long track record of success in energy loan programs across sectors and locations

Sources: 1. ORNL Evaluation of State Energy Programs in 2002 2. Energy Information Administration

Thank You

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Frequently Asked Questions

Q: What will the impact of my program be?

A: It depends on program size, target audience, loan terms, etc.

Q: What should I do to safeguard funds in the event of default?

A: Have proper collateral and loan guarantees.

Q: Is energy efficiency a good investment?

A: Yes paybacks are short and returns are high.

Average Payback Calculation

- Average simple pack back ~ 8.7 yrs
- Estimated to communicate results. Calculation details below
  - Average for these programs across all sectors is ~ 15 million source BTUs per $1000 dollar loaned[1]
  - 3413 BTU per kWh
  - Average nationwide commercial electricity price 1998-2008 = $0.0837 kWh[2]
  - 3413 BTU per kWh x $.0837 x 1e6 = $24.52 per MBTU of site electricity
  - Site to source ratio for electric BTU's is 3.34[3]
  - =(1/3.34)*$24.52 = $7.21 per source MBTU electricity
  - For natural gas assume 1 site BTU = 1.05 source BTU[3]
  - Average nationwide commercial natural gas price 1998-2008 = $8.83[2]
  - Assume source BTU's are 66% electricity and 33% natural gas
  - Average price per source MBTU = $7.70
  - .015 source MBTU per $1 invested * $7.70 spent per source MBTU = $.115 $ saved annually / per $ spent
  - = 8.66 year pack back

Source: 1. ORNL Evaluation of State Energy Programs in 2002 2. Energy Information Administration 3. EPA Energy Star Performance Ratings

Acronym Glossary

ARRA = American Reinvestment and Recovery Act

BTU = British thermal unit

EE = Energy efficiency

EECGB = Energy efficiency conservation block grant

OMB = Office of Management and Budget

RE = Renewable energy

RLF = Revolving loan fund

SEP = State Energy Program

WIP = Weatherization and Intergovernmental Program