U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Financing Program Support for ARRA Recipients

Revolving Loan Funds
December 10, 2009

Speakers

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National Renewable Energy Laboratory
Innovation for Our Energy Future

Revolving Loan Funds
"Basics and Best Practices"

DOE Webinar

Samuel Booth

12/10/09

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

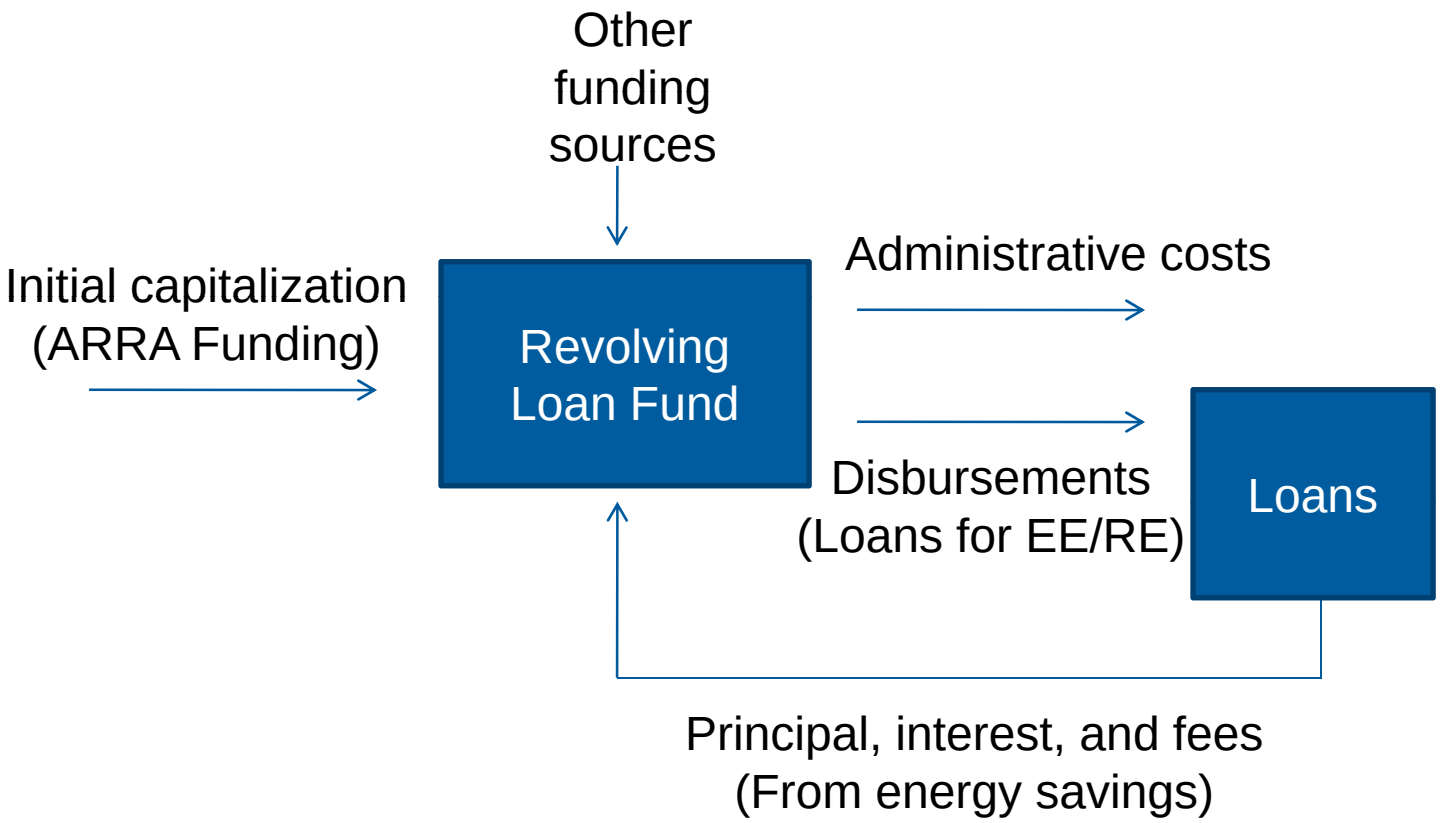
- There are a large number of existing energy loan programs for both EE and RE
- For energy efficiency (EE)
  - 29 states have state level programs
  - 34 states have utility operated programs
  - 5 states have municipal programs
  - Some have hybrid programs that combine public and private sector

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

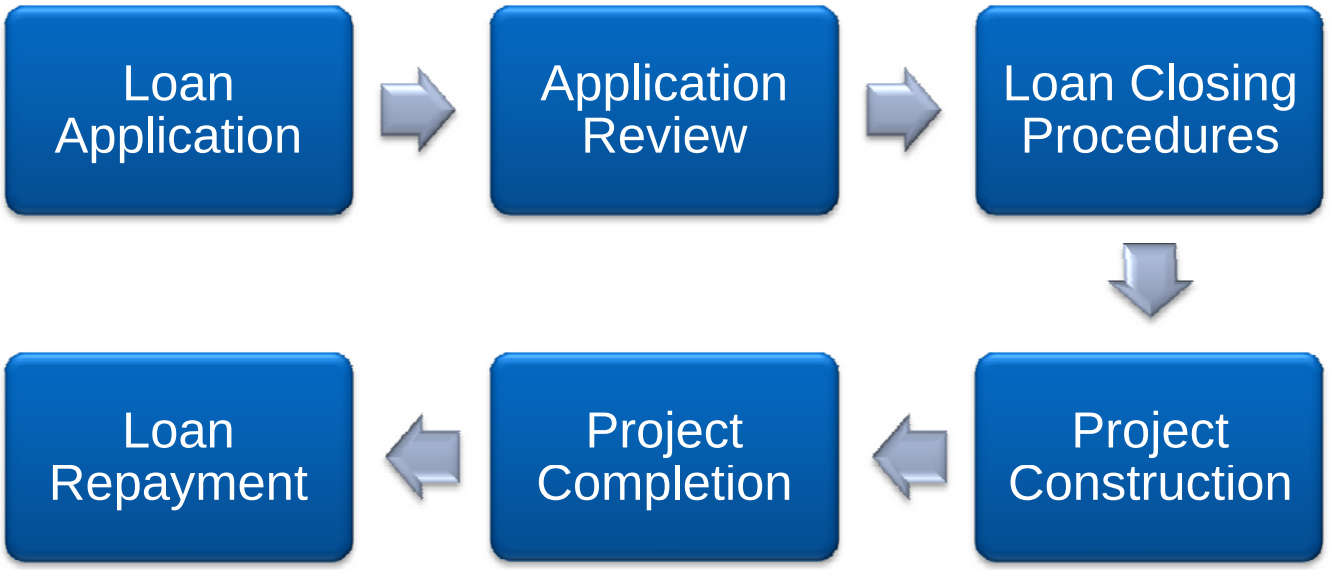
Existing programs vary substantially

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

RLF Basic Structure

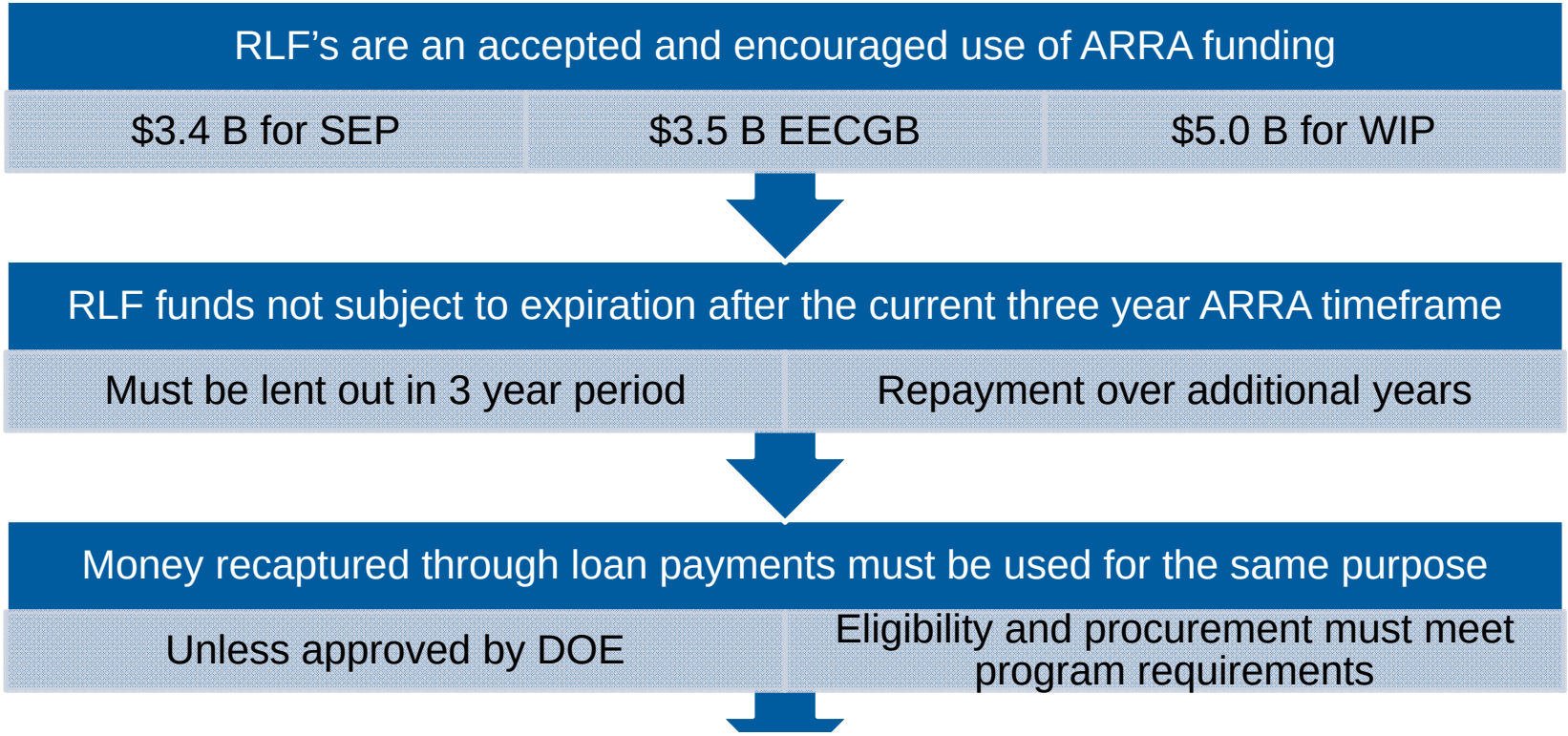


Loan Process Overview



The process should be customized for each program

The ARRA Opportunity



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

Determine Requirements

• Insurance or collateral • Repayment	• % of project funding that loan can be used for • Administrative fees • Interest rates	• 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
  - 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:	• 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

- Determine process for dealing with loan default
  - Are loans are properly secured or guaranteed
  - Eligibility of funds for covering losses in the event of loan default
  - **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

Sam Booth

National Renewable Energy Laboratory

http://www.nrel.gov

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New DOE Guidance on RLFs

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Applies to EECBG formula and competitive grants only

- EECBG funds used to establish (i.e. capitalize) a RLF are limited to the greater of 20% or $250,000
- Restriction does not apply to:
  - Funds used for administrative costs to set up a RLF
  - Funds used for loan loss reserves, loan insurance, or interest rate buy downs for RLFs
  - Financing programs that are not RLFs including Property Assessed Clean Energy (PACE) programs, Energy Savings Performance Contracting (ESPC) programs, and any other permissible financing programs

Full guidance available here:

http://www.eecbg.energy.gov/about/program_guidance.html

Texas LoanSTAR Revolving Loan Program

Eddy Trevino, P.E, CEM

SECO
State Energy Conservation Office

LoanSTAR Background

- LoanSTAR
  - Saving Taxes and Resources
- Finances energy efficient retrofits for state agencies, public schools, county hospitals, and local government
- Repay loans through the stream of cost savings realized from the projects
- Fund value - $125 million
- 200 loans
- Average payback – 6 years

Loan Parameters

Maximum Loan - $5 million

Political subdivision can have maximum 2 loans outstanding - $10 million) – one loan must be in repayment to qualify for second loan

- Defining Repayment

Interest rate – 3%

Loan Term – 10 years or less

Financial Considerations

Payback Guidelines

- Individual CRM and Composite CRM
  - Individual Cost Reduction Measure (CRM) simple payback – less than economic useful life
  - Composite CRM payback– 10 years or less (Loan Term)
- ESPC
  - Composite payback calculation includes M&V and loan interest

Checks and Balances

- http://www.seco.cpa.state.tx.us/sa_pc.htm

Project Types

Design-bid-build

- Not guaranteed savings
- Borrower still responsible for repay loan with energy cost reductions
- Performance bonds required

Energy Savings Performance Contracts

- Guaranteed savings
- Performance bonds required

Application Process

First come, first serve

- Define the term (by signature date, by completed application package)
- Judgment choices – What is have $5 mil app in line and $200k app behind it, do you award smaller loan before bigger loan?

Competitive application process

- Define how you are going score applications and what's most important

Cost Reduction Measures

Guidelines for cost reduction measures (CRMs)

- Decide maximum time for individual CRMs

Applications

- Renovations, major renovations, new construction

Measurement & Verification

Requirements

- Design-bid-build
- ESPC

Guidelines

- Guidelines/requirements
- IPMVP
- ASHRAE
- FEMP

State Energy Conservation Office

- Contact information
  - http://www.seco.cpa.state.tx.us/
  - Eddy Trevino, Program Manager
    - Eddy.trevino@cpa.state.tx.us
    - 512-463-1876

SECO
State Energy Conservation Office

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

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Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- Loans funded by air quality penalties
  - $2.7 million collected to date
- $40,000 maximum loan
  - Raised from $10,000 in 2005 legislature
- Low interest
  - 3.5% 2009
  - 5% 2008
  - Set annually

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- Status
  - FY04 6 loans $47,959
  - FY05 4 loans $31,990
  - FY06 14 loans $263,158
  - FY07 21 loans $369,246
  - FY08 26 loans $719,208
  - FY09 37 loans $893,827
  - FY10 7/1/09 $1,300,000

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- Partnerships
  - MT Renewable Energy Association
  - MT Business Assistance Connection
  - Others
    - Utilities
    - MT Economic Developers
    - USDA

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Montana Alternative Energy Revolving Loan Program

- Finance
  - MT Business Assistance Connection
    - Contract
    - Local economic development agency
    - Credit scoring; recommend approval/denial
    - Issue loan docs, funds
    - File liens
    - Collect loan payments
    - Report and transfer $ back to fund quarterly

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- Marketing
  - Home Shows
  - RE events
  - Workshops
  - Brochures
  - Dealer network
  - Media events
  - Economic developers

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- ARRA Funds
  - $1 - $1.5 million added
  - Increase max loan to $100,000
  - Increase max term to 15 years
  - Limit ECMs
  - NEPA issues resolved; cx requested

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- Where are we now?
  - RFP for financial services
  - Accepting applications
  - Expect to fully loan in 6 months
  - Separate contract for ARRA projects
  - Add ARRA language to loan documents

Montana Department of Environmental Quality

Montana Alternative Energy Revolving Loan Program

- What's still out there?
  - Figure out "gov't subsidized loan" language pertaining to tax credits
  - Set interest rate for 2010
  - Hang on to our hats!!

NASEO and EPC Secondary Market Efforts

Multi-State Effort to Catalyze Investor Market for Energy Efficiency

Howard Banker
Managing Director
Energy Programs Consortium

Where should we begin? What is the "Lowest Hanging Fruit" & Why?

- Unsecured loans
  - Investor model already exists (Fannie Mae)
  - Loan product architecture already exists (we share!)
  - A multitude of state, public benefit fund and utility unsecured loan programs already exist
  - EPA Home Performance w Energy Star already exists
  - 3 - 5 million homeowners replace HVAC/water heaters each year
- Standardize these programs and products and deliver to secondary market in a unified way at SCALE (minimum $25 million per month)

Conforming EE/RE Financing and Consumer Protection

- Simple loan interest (no compounding)
- Terms can go to 20 years to accommodate borrower needs
- Preservation of claims & FTC regulations included
- Small late payment fees and no “minimum payment” traps
- No “Kickback” rule
- Easy borrower modification on job loss
- Requires contractor reps and warrants
- Non discriminatory underwriting (automated) and not dependent on home equity
- Can include UCC as additional loan security

Conforming EE/RE Financing and Loan Collections

- The loan is originated (closed) by an approved experienced financial institution
- The loan can be serviced (collect payments) by either a lender or by utility and sold into the same security
- Either approach will work

Contact

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DOE Resources

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Send feedback & requests for technical assistance on financing to:

Bret Kadison – financingrapidresponse@ee.doe.gov

Resource Portal for Financing Programs, see page on RLFs:

http://www.eecbg.energy.gov/solutioncenter/financialproducts/

DOE Guidance on the use of ARRA$ for RLFs:

http://www.eecbg.energy.gov/about/program_guidance.html

Upcoming and past webinars:

http://www.eecbg.energy.gov/solutioncenter/webcasts/

Extra Slides

Average Payback Calculation

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- 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 $MBTU_O$ f 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

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

- 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