

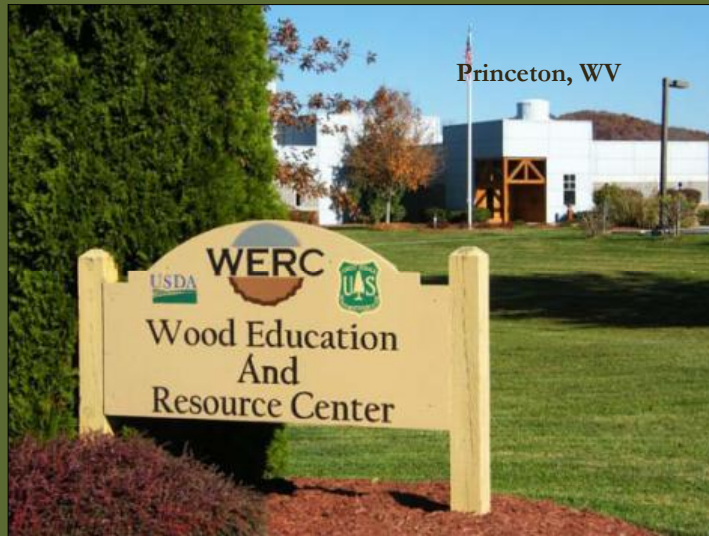
Financing Wood Energy Projects

Maryland Wood Energy Boot Camp
Overhills Mansion
Catonsville, MD
February 23, 2015

Lew McCreery
USDA Forest Service
Northeastern Area State and Private Forestry
Wood Education and Resource Center



Wood Education and Resource Center





USDA Forest Service Northeastern Area State and Private Forestry Wood Education and Resource Center

WERC's Woody Biomass Technical Assistance Team

- Partnership between WERC and engineering firms with wood energy expertise providing targeted technical assistance to facility owners and managers
- Program focuses on system efficiency and fuel flexibility
- Thermal storage to **reduce emissions** and O&M costs and improve boiler performance
- Provide Feasibility Studies, Design/Build Contract Development and Review Assistance, Facility Owner Technical Representative, Fuel Contract support

USDA

Technical Assistance Outcomes

Summary of Projects Evaluated

Item	Annual Value	25-yr Value
Projects Evaluated	113	113
Annual Energy Usage Evaluated, mmBtu	4,983,776	124,594,412
<i>Fuel Oil Gallon Equivalents, gallons</i>	<i>35,598,403</i>	<i>889,960,086</i>
Heating Cost for Evaluated Facilities	\$42,196,581	\$1,054,914,521
Combined Costs of All Potential Projects	\$248,906,280	\$248,906,280
Potential Operational Savings Identified	\$20,492,968	\$512,324,208
Potential Electric Generated/Offset, kWh	46,365,149	1,159,128,725
Potential Woody Biomass Utilization Identified, green tons	517,517	12,937,935
Potential Direct Impact to Local Forest Products Industry (\$35/green ton)	\$18,113,109	\$452,827,733
Potential Net CO2 Reductions, mtonne/yr	3,553,826	88,845,638
Item	Annual Value	25-yr Value
Projects Implemented	33	33
Annual Energy Usage Evaluated, mmBtu	896,604	22,415,095
<i>Fuel Oil Gallon Equivalents, gallons</i>	<i>6,404,313</i>	<i>160,107,818</i>
Heating Cost for Evaluated Facilities	\$7,521,215	\$188,030,374
Combined Costs of All Potential Projects	\$52,791,296	\$52,791,296
Operational Savings Achieved	\$4,840,724	\$121,018,092
Electric Generated/Offset, kWh	5,633,972	140,849,300
Woody Biomass Utilization Achieved, green tons	71,497	1,787,423
Direct Impact to Local Forest Products Industry (\$35/green ton)	\$2,502,393	\$62,559,819
Net CO2 Reductions, mtonne/yr	29,587	739,663



Financing Wood Energy Project

- Loans
 - USDA RD
 - SBA
 - Commercial Banks
- Grants
 - USDA RD & FS
 - State Programs
- Municipal Leases



USDA Loan and Grant Programs

- Business and Industry (B&I) Loan Guarantees
- Community Facilities Loans and Guarantees
- REAP Loans
- Rural Economic Development Loans
- Community Facility Grants
- REAP Grants
- Rural Economic Development Grants
- Forest Service Wood Innovation Grants



B&I Guarantee Program

- USDA guarantees loans made by eligible lenders to businesses located in rural areas.
- Improve the economic and environmental climate in rural communities.
- Local banks can:
 - Offer better terms - longer loan maturity or larger loan sizes
 - Guaranteed portion doesn't impact lending limits
 - Reduces risk factors



Community Facility Loans and Guarantees

- Loans and loan guarantees for essential community facilities in rural areas.
- Priority is given to healthcare, education, and public safety projects.
- Funds may be used to construct, enlarge, or improve facilities.
- Guarantees up to 90 percent of loss of principal and interest on loans or bonds made to develop or improve essential community facilities.
- Loan rates are currently at 3.75% for terms up to 30 years



REAP Loans and Grants

- Purpose: Guaranteed loan financing and grant funding to ag producers and rural small businesses to purchase or install renewable energy systems or make energy efficiency improvements
- Ag producers with at least 50% of gross income coming from ag operations & small businesses in areas with <50,000 pop.
- Funds may be used for the purchase, installation and construction of renewable energy systems and energy efficiency improvements



REAP Grant and Loan Program

- Loan guarantees up to 75% of total eligible project costs - grants for up to 25% of total eligible project costs
- Combined grant and loan guarantee funding up to 75% of total eligible project costs

Renewable Energy
System Grants:
\$500,000 maximum

Energy Efficiency
Grants:
\$250,000 maximum



REAP Loan or Grant Considerations

- Grant only applicants provide at least 75% of the project cost.
- Loan or loan/grant applicants must provide at least 25% of the project.
- Projects greater than \$200,000 require a technical report.
- Energy efficiency projects require an energy audit or assessment.



Rural Economic Development Loan and Grant Program



Rural Economic Development Loan & Grant Program

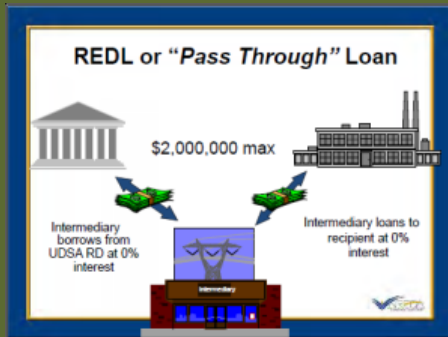
- **Program Purpose:** To Promote Rural Economic Development and Job Creation Projects through
 - 0% "Pass through" Loans (REDLs)
 - Grants to establish a local Revolving Loan Fund (REDGs)
- **Program Priorities:**
 - Job Creation / Improve the Skill Set of the Rural Workforce
 - Education Projects
 - Health Care Projects
- **Nationally Competitive Program**
 - Monthly Application Submissions
- **REDL&G Funding Levels**
 - REDLs – \$33 Million (\$50+M Available with Carry-Over)
 - REDGs – \$20 Million (<\$3 Million Available)

REDL&G Overview - Definitions

- RUS Eligible Borrower— "Intermediary"
- Project— "Ultimate Recipient of Funds"
- REDL— "Rural Economic Development Loan"
 - a/a/a "Pass Through Loan"
- REDG— "Rural Economic Development Grant"
 - Grant is to Intermediary (Applicant)
 - 0% Loan to Project (Ultimate Recipient)
- **Eligible Location**
 - Rural Areas with populations < 50,000
 - Priority for areas of under 2,500 and under 1,250



Rural Economic Development Loans and Grants



REDL&G Loan Terms

- Maximum \$2,000,000 or up to 80% of Project, whichever is less
 - (less that 80% is better)
- 0% Interest Loan
- Up to 10 Year Term
- Up to 2 year deferment until payments start
- Monthly payments match Co-op's repayment to USDA

**** Intermediary Guarantees Loan ****
 ** Adequate Security a Must **



USDA Forest Service Northeastern Area State and Private Forestry Wood Education and Resource Center

USDA Grant for Revolving Loan Fund

USDA RD grants to RLF
\$300,000 Max

Intermediary Administered RLF of \$360,000

Intermediary matches 20% with own funds \$60,000 max

USDA Grant for RLF

-- "Initial Loan" Terms

Application is submitted on behalf of one or more projects

- Initial Loan to Non-Profit Entity or Public Body
 - Project receives a 0% Interest Loan
 - Up to a 10 Year Term
 - Up to 2 year deferment until payments start
 - Application can be up to 80% of project costs

Combination Loan and Grant Applications

- Must be non-profit or public body
- Submit in applications under one cover, USDA can approve separately
- Match required for RLF, guarantee for Loan
- Two separate loans are issued
- Works well for Health Care, Education, community projects
- May be used to recapitalize a non profit loan fund

USDA

USDA Forest Service Northeastern Area State and Private Forestry Wood Education and Resource Center

Small Business Administration Programs

- 7(a) Loan Guarantees
 - Local bank, savings & loan, or credit union can participate
 - Lending partner applies for the guarantee with SBA
- CDC/504 Loan Program
 - Accessed through a Certified Development Company
 - Business owner provides 10% equity
 - Up to 20-year loans for buildings (10 years for equipment)
 - Work with a local lending partner

USDA

Municipal or Tax-exempt Lease

- A municipal or tax-exempt lease agreement allows a political subdivision to use annual revenues to make payments for any type of essential use equipment or facilities
- 'tax-exempt' or 'municipal lease' qualification is associated with the federal income tax exemption on lessor interest earnings
- tax-exempt lease carries a much lower interest rate than other types of leases and installment loans
- Only municipalities or qualified political subdivisions can qualify for this type of financing agreement
- Non-appropriation clause means lease not considered debt



Benefits of Municipal/Tax Exempt Leases

- Not considered debt - year to year commitment using available revenue sources
- No voter approval needed (in most states)
- Simple documentation with one investor
- Flexible payment structures
- Simple interest calculations with equal payments consisting of principal and interest
- Upfront issuance, closing, and trustee fees may not be required



Forest Service Wood Innovations Grants

- To increase woody biomass use for value-added products including energy
- Woody biomass from projects that reduce fire hazard and improve forest health
- Up to \$250,000 for permitting, final engineering, and other development costs.
- No equipment purchases (Leases allowed).

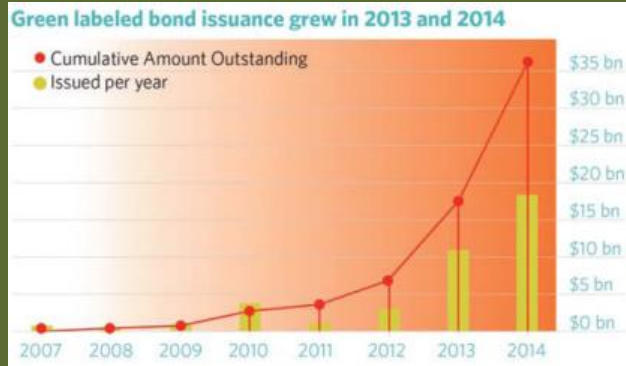


Green Bonds - What Are They?

- "Green bonds are bonds whose proceeds are specifically earmarked for projects and activities that promote climate and other environmental sustainability purposes.



The Green Bond Market is Expanding



<http://www.ccmfixedincome.com/files/Green-Bond-Investment-Opportunities-Sept2014.pdf>



Green Bond Principles

(GBP) are voluntary process guidelines that recommend **transparency and disclosure** and promote **integrity** in the development of the Green Bond market by clarifying the approach for issuance of a Green Bond.



<http://about.bankofamerica.com/assets/pdf/Green-Bond-Principles.pdf>

Projects Funded Can Include

- Renewable energy
- Energy efficiency (including efficient buildings)
- Sustainable waste management
- Sustainable land use (including sustainable forestry and agriculture)
- Biodiversity conservation
- Clean transportation
- Clean water and/or drinking water



 <http://about.bankofamerica.com/assets/pdf/Green-Bond-Principles.pdf>

Recent Green Bond Projects

- Bank of America – 2013 BOA issued the first ever corporate “Green Bond” to finance renewable energy and energy efficiency projects
- The DC Water and Sewer Authority \$350 million Green bond sale
- NYSERDA - \$24.3 million in its first ever issuance of revenue bonds to finance loans to make energy efficiency improvements
- MA - \$350 million of the bonds - The state will use proceeds for clean water, energy efficiency, river revitalization and open-space protection efforts, according to the prospectus.



For More Information

Lew R. McCreery
(304) 285-1538

lmccreery@fs.fed.us
www.na.fs.fed.us/werc/

