Financing Wood Energy Projects

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

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

Wood Education and Resource Center

Princeton, WV
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
Technical Assistance Outcomes

### Summary of Projects Evaluated

<table>
<thead>
<tr>
<th>Item</th>
<th>Annual Value</th>
<th>25-yr Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects Evaluated</td>
<td>113</td>
<td>113</td>
</tr>
<tr>
<td>Annual Energy Usage Evaluated, mmBtu</td>
<td>4,383,719</td>
<td>124,594,412</td>
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<tr>
<td>Fuel Oil/Gas equivalents, gallons</td>
<td>85,598,413</td>
<td>2,089,960,893</td>
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<tr>
<td>Heating Cost for Evaluated Facilities</td>
<td>$246,996,208</td>
<td>$246,996,208</td>
</tr>
<tr>
<td>Combined Costs of All Potential Projects</td>
<td>$246,996,208</td>
<td>$246,996,208</td>
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<tr>
<td>Potential Operational Savings Identified</td>
<td>$211,092,345</td>
<td>$511,324,008</td>
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<td>Potential Electric Generated/Offset, kWh</td>
<td>46,996,208</td>
<td>1,164,996,521</td>
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<tr>
<td>Potential Woody Biomass Utilization Identified, green ton</td>
<td>317,577</td>
<td>7,997,939</td>
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<tr>
<td>Potential Direct Impact to Local Forest Products Industry ($35/green ton)</td>
<td>$18,113,109</td>
<td>$452,827,773</td>
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<tr>
<td>Potential Net CO2 Reductions, mtonne/yr</td>
<td>3,503,629</td>
<td>86,849,629</td>
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</table>

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<tr>
<th>Item</th>
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</thead>
<tbody>
<tr>
<td>Projects Implemented</td>
<td>33</td>
<td>33</td>
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<tr>
<td>Annual Energy Usage Evaluated, mmBtu</td>
<td>896,641</td>
<td>22,415,093</td>
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<tr>
<td>Fuel Oil/Gas equivalents, gallons</td>
<td>6,404,313</td>
<td>160,107,463</td>
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<tr>
<td>Heating Cost for Evaluated Facilities</td>
<td>57,521,413</td>
<td>1,488,058,574</td>
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<tr>
<td>Combined Costs of All Potential Projects</td>
<td>55,791,296</td>
<td>1,459,058,574</td>
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<tr>
<td>Operational Savings Achieved</td>
<td>5,980,124</td>
<td>121,018,092</td>
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<td>Electric Generated/Offset, kWh</td>
<td>3,633,972</td>
<td>84,840,902</td>
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<tr>
<td>Woody Biomass Utilization Achieved, green ton</td>
<td>71,497</td>
<td>1,787,423</td>
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<tr>
<td>Direct Impact to Local Forest Products Industry ($35/green ton)</td>
<td>5,502,313</td>
<td>126,509,582</td>
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<tr>
<td>Net CO2 Reductions, mtonne/yr</td>
<td>29,987</td>
<td>738,665</td>
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</table>

### 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

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

**REDL or "Pass Through" Loan**
- Maximum $2,000,000 or up to 80% of Project, whichever is less
- 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

**REDL & G Loan Terms**
- Intermediary guarantees loan
- Adequate Security a Must

**Rural Economic Development Loans and Grants**
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
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


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

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
- NYSEDA - $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

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