

Financing Opportunities in Rural Communities

A Central Appalachian Webinar Series

Improving Energy Infrastructure

October 21, 2010



APPALACHIA FORUMS



THE FEDERAL RESERVE BANK OF RICHMOND
RICHMOND • BALTIMORE • CHARLOTTE



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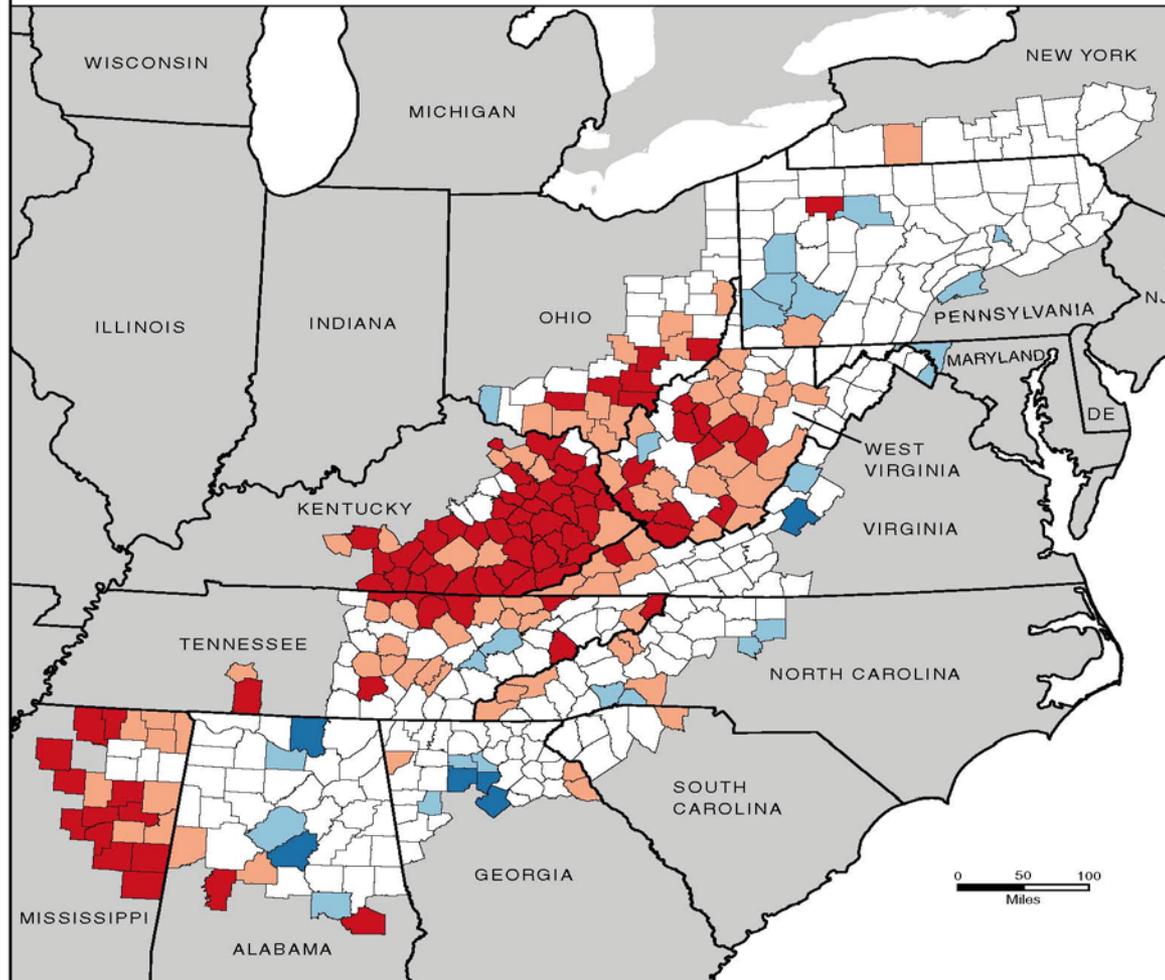


Appalachian Regional Commission

*ARC's mission is to be a strategic partner and advocate
for sustainable community
and economic development in Appalachia.*

County Economic Status in Appalachia, Fiscal Year 2010

(Effective October 1, 2009 through September 30, 2010)



- 13 states
- 420 counties
- 205,000 sq. miles
- 25 million people

The Appalachian Regional Commission uses an index-based county economic classification system to identify and monitor the economic status of Appalachian counties. See the reverse side for a description of each economic level.

County Economic Levels

	Distressed (82)
	At-Risk (79)
	Transitional (229)
	Competitive (24)
	Attainment (6)



Map Created: October 2009.
Data Sources: U.S. Bureau of Labor Statistics, LAUS, 2005-2007;
U.S. Bureau of Economic Analysis, REIS, 2006;
U.S. Census Bureau, 2000 Census, SF3.



Energy and Economic Development

History of Energy Jobs in the Region

ARC Energy Blueprint:

- **70,000 new jobs in the renewable energy sector.**
(Penn State, 2006)
- **77,000 net new jobs in Appalachia by 2030 through EE improvements.**
(ACEEE, GA Tech - 2009)

Energy and Economic Development

NC Sustainable Energy Association, 2010

- 12,500 full-time equivalent employees
- \$3.5 billion in annual revenue
- Employment expanded 22% since 2009

Public Sector Support

National Governors Association, 2010

- 49 states adopted policies for clean energy development
- 47 states took action to expand EE measures
- 39 states made investments in green economic development

Federal Programs – loan guarantees, tax credits, grants, stimulus funding

Private Sector Investment

Volatile but growing in 2010.

Through Q3 2010, total global investment in Cleantech has been \$5.73 billion, ahead of the full-year 2009 total of \$5.69 billion.

Debt markets Q1 & Q2 2010:

- \$8.4 billion of asset financings in the U.S.**
- \$11.1 billion in Europe**
- \$22.0 billion in China**

Cleantech Group, 2010

American Council on Renewable Energy, 2010

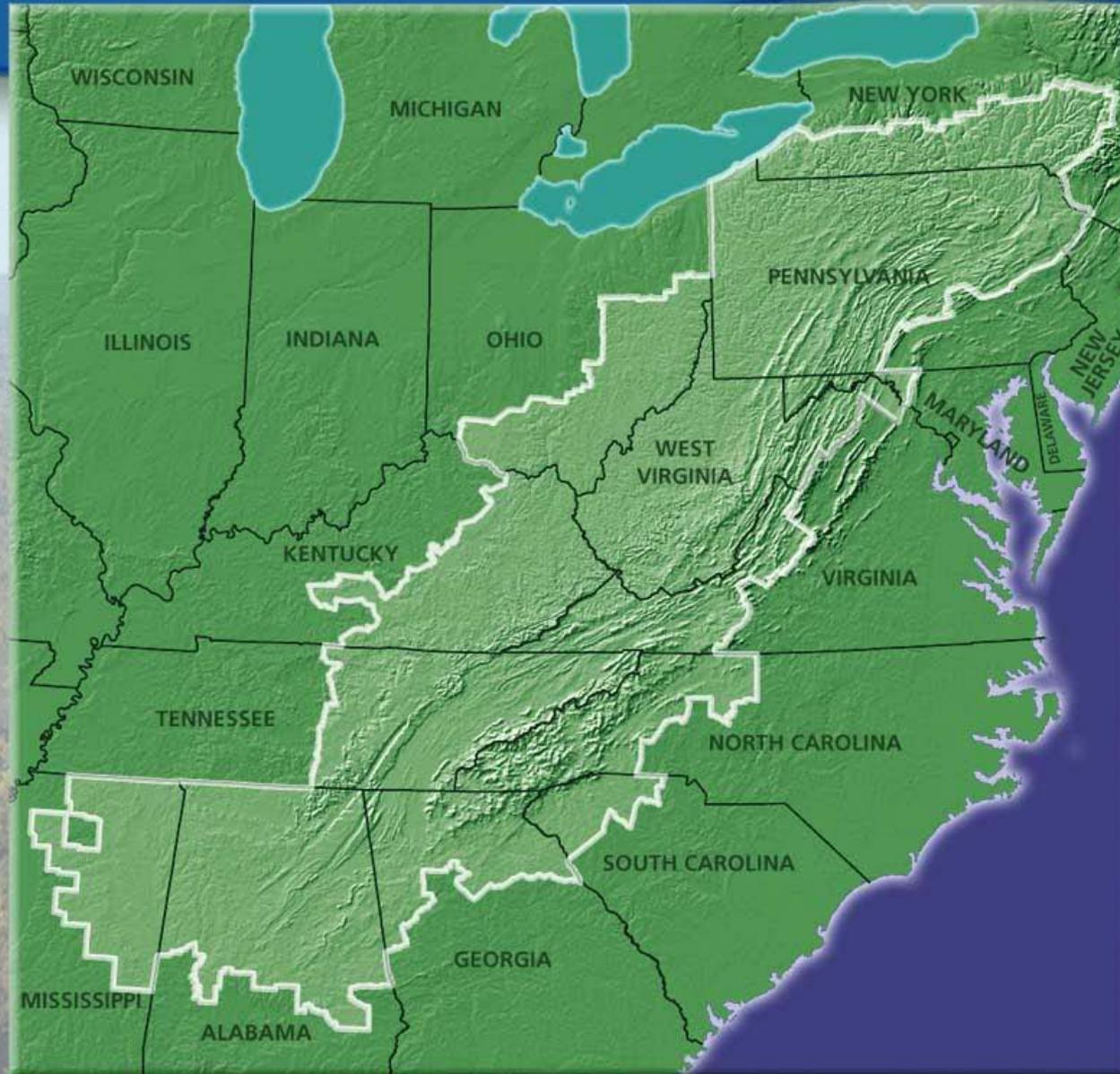
Private Sector Investment

Top sectors for cleantech investment in 2010:

- solar
- wind
- transportation
- energy efficiency

California based companies accounted for the most investment — receiving 40% of all private equity dollars.

Appalachian Region





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Beijing
Boston
Brussels
Chicago
Frankfurt
Hong Kong
Houston
London
Los Angeles
Moscow
Munich
New York
Palo Alto
Paris
San Francisco
São Paulo
Shanghai
Singapore
Sydney
Tokyo
Toronto
Vienna
Washington, D.C.
Wilmington

Renewable Energy Financing Opportunities

Federal and State Energy Incentives

Frank Shaw

October 21, 2010



APPALACHIA FORUMS

Skadden's Renewable Energy Capabilities

- Over 2,000 lawyers in 24 offices in 13 countries, including Washington DC, San Francisco, Los Angeles and New York
 - More than 40 practice areas, advising clients in renewable energy matters involving, among others:
 - Energy Projects
 - Energy Regulatory
 - Tax
 - Corporate Finance
 - Intellectual Property
 - Mergers and Acquisitions
 - Environmental
 - Litigation
 - Real Estate
 - Add substantial value through our depth and breadth of experience, our industry knowledge, and our skill bringing together diverse and opposing parties involved in a difficult and complicated financing transactions; closed over \$25 billion in energy finance transactions
 - Skadden is recognized as one of the top-tier firms involved in energy project financing and electric power projects by numerous publications
 - Represent a broad spectrum of U.S. renewable energy clients, including sponsors, developers, lenders and investors
 - The leading electric power (FERC) regulatory practice in the United States, according to *Chambers USA*
 - Extensive expertise managing the financing of large, often first-of-a-kind, energy projects
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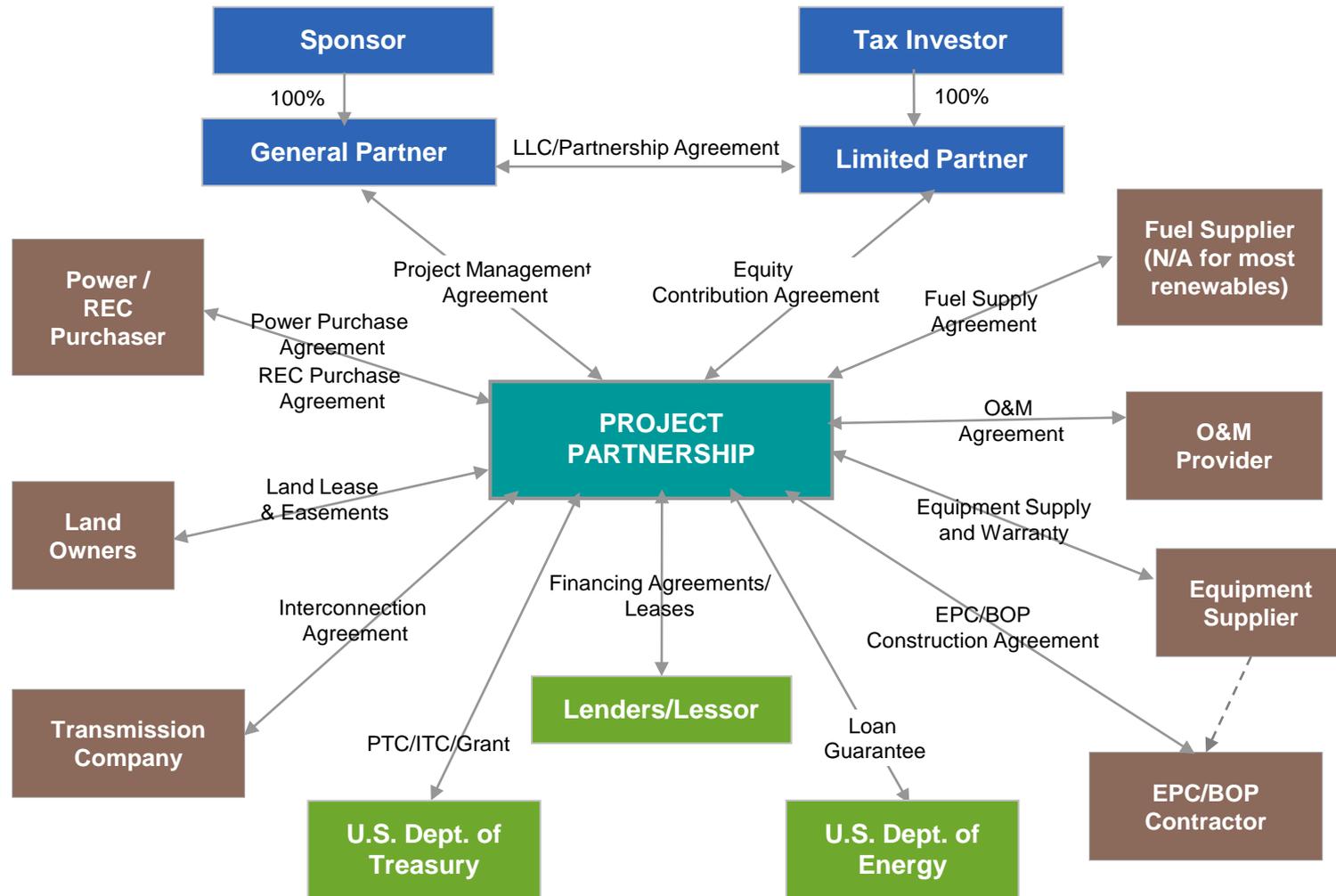
Agenda

- Overview of Project Finance
- Renewable Energy Project Finance Drivers
- DOE Loan Guarantees
- Key Tax Incentives
- Clean Renewable Energy Bonds
- Community Wind
- Other Recent Legislative Developments

Overview of Project Finance

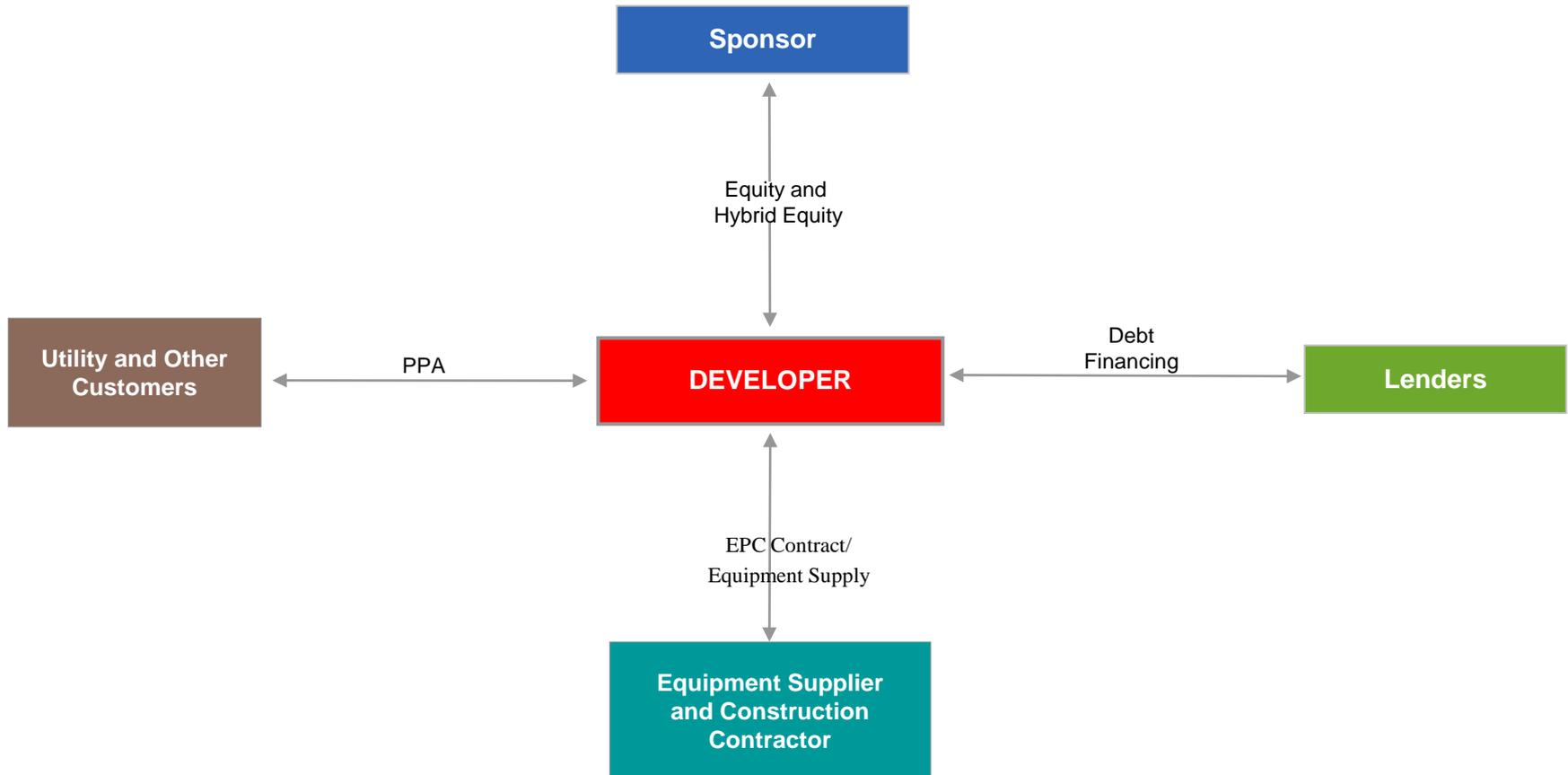
- An asset-based debt financing method
 - Project company or portfolio holding company is the borrower
 - Loan is non-recourse to sponsor
 - Debt is only secured by the project assets (real and contractual assets)
 - Liens on property
 - Pledge of equity ownership
 - Assignment of all contractual arrangements
 - Assignment of all project cash flow
 - Debt is repaid from the project/portfolio cash flow
- Key differences from corporate finance
 - Cash Flow separation
 - Non-recourse financing
- Why project finance?

Overview of Project Finance



PPA as Basis for Financing

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Renewable Energy Drivers

- Variety of federal and state policies and incentives are spurring investment in renewable energy
 - Renewable Portfolio Standards
 - Renewable Energy Credits
 - Carbon Trading
 - Feed-In Tariffs
 - Tax incentives (Investment Tax Credits, Production Tax Credits, Grants in Lieu of Credits)
- Commercial drivers
 - Fuel diversity
 - Reduced carbon footprint
 - Public demand
 - Price?

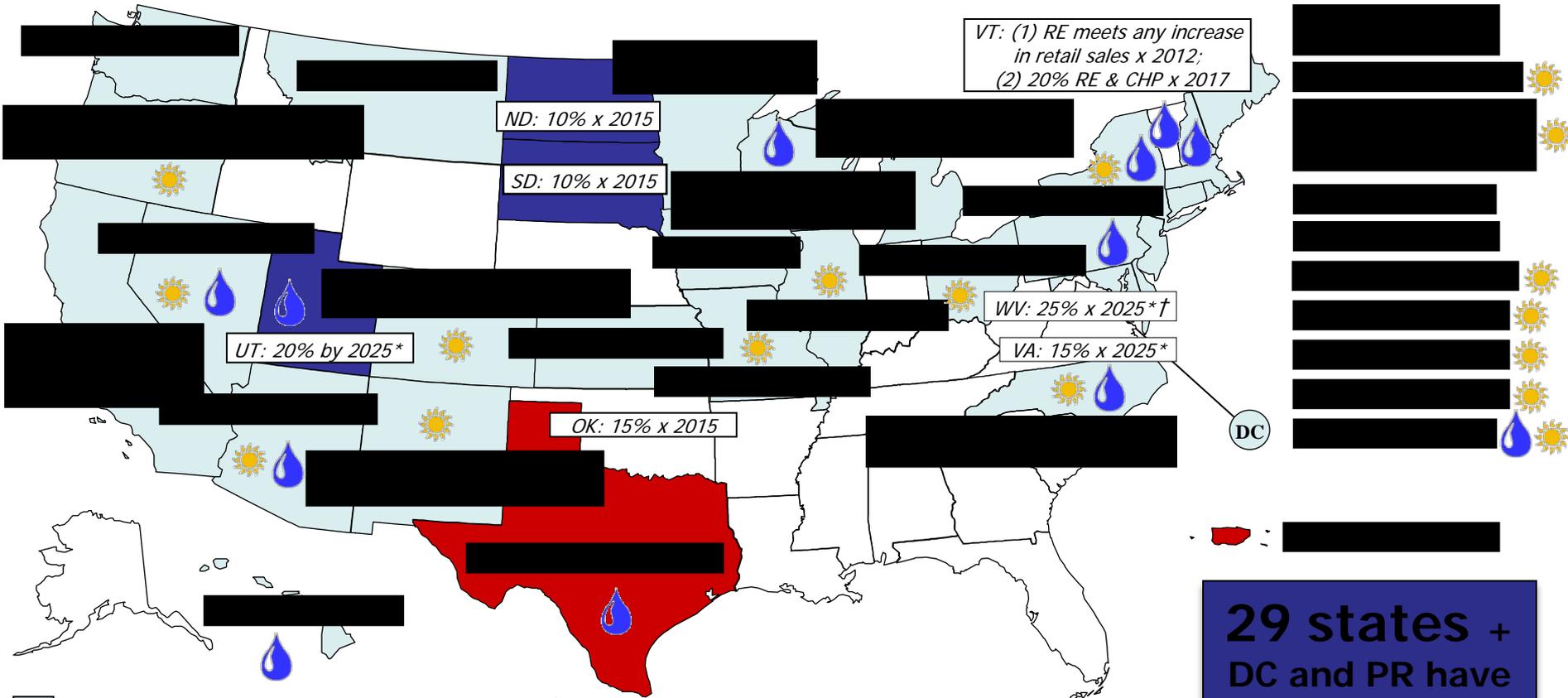


Renewable Portfolio Standards

- Renewable Portfolio Standard (“RPS”) – a requirement that a minimum percentage of electricity be generated by renewable energy resources by a certain date
- Standards can be enacted at both the State & Federal levels
 - Bingaman Proposal at federal level pending as of October 2010 would ultimately require 15% from renewable sources, including up to 4% through energy efficiency improvements
 - 29 states, the District of Columbia, and Puerto Rico have passed mandatory RPS programs; 7 more states have passed conditional or non-mandatory renewable goals
- Diversity exists among state RPS requirements – what qualifies as a renewable, target amount, dates, special preferences for types of renewable sources
- Out-of-state power may qualify - either direct sales or RECs

Renewable Portfolio Standards

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- Renewable portfolio standard
- Renewable portfolio goal
- Solar water heating eligible

- Minimum solar or customer-sited requirement
- Extra credit for solar or customer-sited renewables
- Includes non-renewable alternative resources

29 states + DC and PR have an RPS
(7 states have goals)

Source: www.dsireusa.org / September 2010

Renewable Energy Credits

- Renewable Energy Credits (“RECs”) - Represent the “green” attributes of electricity generated from renewable resources, and are traded separately from the electricity itself.
 - Derive value from allowing states to meet RPS requirements
 - Certification procedures assure that the “renewable” aspect of each REC is traced to a particular renewable energy generating unit and is not double-counted
 - Only statewide and regional markets currently exist in the U.S
 - Utilities currently buy “bundled” RECs in long-term PPAs
 - Unbundled RECs are sold separately or on OTC markets
 - In September 2010, NYSE Euronext & APX unveiled a joint venture aimed to create a national exchange for RECs
 - Out-of-state RECs may qualify for interstate trading
 - e.g., RECs generated by University of New Hampshire for sale from a cogeneration facility and a landfill gas-to-energy plant located on the campus were slated for auction in four New England states on October 13



Carbon Trading

- Market-based approach that constrains the aggregate emissions of regulated sources by creating a limited number of tradable emission allowances, which emission sources must secure an amount equal to their emissions
- Differs from RECs since related to reduction in greenhouse gases rather than production of renewable energy
- Federal carbon and energy legislation that would set a cap on carbon emissions passed House only in 2009; as of October 2010, similar bill is pending before Senate
 - federal cap-and-trade bill for industrial greenhouse-gas emissions not likely to be enacted “anytime soon”
 - Whether EPA can set up a carbon-trading program using authority that it already has under the federal Clean Air Act is an open question

Feed-In Tariffs

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- Feed-In Tariffs (“FiTs”) - Obligations imposed on regional or national electric grid utilities to buy renewable electricity from all eligible participants and guarantee access to the grid
 - Key component of European renewable energy economics
 - Constitutional and federal law (Commerce Clause and Federal Power Act/preemption) issues complicate the implementation structure of these tariffs in the U.S.; DOE seeking FERC/Congressional action to address these issues
 - At least 18 U.S. states are considering adopting FiTs
 - California PUC has proposed to set feed-in tariffs for renewable power transactions of up to 20 MW based on twice-yearly auctions held by the state’s 3 largest IOUs; individual power prices would be proposed by each seller



DOE Loan Guarantees

U.S. Department of Energy (“DOE”) Loan Guarantee

Background:

- Section 1703 Program
 - Established under Title XVII of the Energy Policy Act of 2005 to support “innovative” projects that are unable to obtain conventional private financing due to high technology risks
- Section 1705 Program
 - Established under the Recovery Act of 2009 to support commercially-proven renewable energy, transmission and biofuels projects that will commence construction by September 30, 2011
 - Able to support innovative technology projects as well as commercially viable projects that are unable to obtain private loans due to the credit crisis
- Recovery Act expanded funding and widened scope of eligible projects

DOE Loan Guarantees

Issue	July 29, 2009 Innovative Technologies Projects Solicitation	October 7, 2009 Financial Institutions Partnership Program ("FIPP") Solicitation
Technologies	Project must employ technology that (i) has not been installed in and used in <u>three or more projects in the United States</u> in the same general application as in the proposed project and been in operation in each such commercial project for a period of at least <u>five years</u> or (ii) involves meaningful and important improvements in productivity or value in comparison to commercial technologies (" <u>New or Significantly Improved Technology</u> ").	Project must employ technology that has been installed in and is being used in <u>three or more commercial projects anywhere in the world</u> in the same or substantially similar general application as in the proposed project and has been in operation in each such commercial project for a period of at least <u>two years</u> (" <u>Commercial Technology</u> ").
Lender	Federal Financing Bank (if applicant seeks a 100% guarantee from DOE).	Private commercial lenders.
Applicant	Project sponsors or developers apply directly to DOE.	Lender-Applicants apply to DOE for a loan guarantee.
Guaranteed Amount	\$51B total ARRA loan authority for 1703; \$10.643B committed as of 8/21/10	\$21B total ARRA loan authority for 1705; \$4.1B committed & closed as of 8/21/10
Deadline	Round 8, Part 1 application deadline - October 5, 2010.	Part I accepted on a rolling basis; after notice from DOE, applicant submits Part II, the last deadline for which is January 6, 2011

Key Tax Incentives

- The U.S. Internal Revenue Code contains a number of energy-related tax provisions for renewable energy projects:
 - *Accelerated Depreciation*. Taxpayers generally allowed to claim accelerated depreciation deductions over a 5 year recovery period with respect to the adjusted tax basis for certain renewable energy property.
 - *Production Tax Credit (“PTC”)*. Taxpayers permitted to claim a section 45 PTC based on the production and sale of electricity over a 10-year period for (i) qualified wind facilities placed in service before January 1, 2013 or (ii) other qualified facilities (i.e., closed-loop biomass, open-loop biomass, geothermal, hydropower, landfill gas, trash combustion, marine renewable and hydrokinetic facilities).

Key Tax Incentives (cont'd)

- Investment Tax Credit (“ITC”). Taxpayers permitted to claim a section 48 ITC equal to the applicable % of the tax basis of certain energy property, generally:
 - 30% for solar, qualified fuel cell (limited to \$1,500 per 0.5 kw of capacity), and qualified small wind
 - 10% for qualified microturbine (limited to \$200 per kw of capacity), combined heat and power, and geothermal
- Grants for Specified Energy Property In Lieu of Tax Credits. Cash grants available with respect to specified energy property in lieu of section 45 PTCs or section 48 ITCs. The amount of such grant equals the investment tax credit otherwise available with respect to specified energy property



Key Tax Incentives (cont'd)

Incentive	Amount	Deadline	Timing
Production Tax Credit	2.2 cents/kWh in 2010 for wind & geothermal (subject to inflation adjustment) ¹	Placed in service before January 1, 2013 for wind; before January 1, 2014 for other renewables	10 years following placed in service date
Investment Tax Credit	30% of basis of specified energy property for wind, solar & geothermal ²	Placed in service before January 1, 2017 for solar; before the relevant PTC deadline for PTC eligible facilities	Placed in service date
Grant	30% of basis of specified energy property for wind, solar & geothermal ²	Placed in service or construction began before January 1, 2011	60 days after the later of placed in service or application filed

- 1) Other renewable resources are also eligible, some at a reduced rate (i.e., 1.1 cent/kWh in 2010), e.g., open-loop biomass and hydropower
- 2) Other renewable resources are also eligible, some at a reduced rate (i.e., 10% of basis), e.g., microturbines, geothermal heat pumps, combined heat and power

Key Tax Incentives (cont'd)

- Certain renewable fuels are eligible for tax credits
 - The Energy Policy Act of 2005 established the first-ever federal Renewable Fuels Standard (RFS), requiring increasing volumes of ethanol and biodiesel to be blended with the U.S. fuel supply between 2006 and 2012
 - Energy Independence and Security Act, passed in 2007, required the use of ethanol and other biofuels to rise from 9 billion gallons in 2008 to 36 billion gallons in 2022
 - Volumetric Ethanol Excise Tax Credit (VEETC), providing an incentive to blend ethanol with gasoline, is authorized through December 31, 2010
 - Biodiesel tax credit of \$1-a-gallon was enacted 5 years ago but lapsed on December 31, 2009; the House passed an extension of the tax incentive in May 2010 but the Senate has not yet passed a corresponding measure



Clean Renewable Energy Bonds

- Clean renewable energy bonds (“CREBs”) may be used by primarily public sector entities to finance renewable energy projects.
 - Qualifying technologies is generally the same as that used for the federal renewable energy PTC)
 - Issuers can be electric cooperatives, government entities (states, cities, counties, territories, Indian tribal governments or any political subdivision thereof), and by certain lenders.
 - CREBs are issued with a 0% interest rate.
 - Borrower pays back only the principal of the bond
 - Bondholder receives federal tax credits in lieu of the traditional bond interest
- Energy Tax Incentives Act of 2005 added section 54 to the Internal Revenue Code (later amended), which provided for a total national volume cap of \$1.2 billion for CREBs to finance eligible clean renewable energy projects
- In 2009, the American Recovery and Reinvestment Act provided an additional \$1.6 billion of new CREBs
- IRS announced effective September, 2010, it is accepting applications from cooperative electrical companies for authority to issue new CREBs for qualified projects
 - \$190 million volume cap available for cooperatives.
 - Deadline of November 1, 2010
- Bond volume for other eligible sectors (government entities and public power providers) was fully allocated in October 2009
- Bills pending in Congress to repeal limits on issuance of new CREBs

Community Wind

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- Renewable energy is generated by wind turbines that are at least partially owned by local landowners and other community members, rather than private developers
- Key differences from traditional wind development model:
 - Local communities play a significant role in decision-making and goal-setting for the project.
 - Landowners not only get turbine leases, but also have the opportunity to join the project as part-owners via investment of their wind rights or money.



Community Wind

- Other key features
 - Communities can purchase renewable energy while a developer owns, operates & maintains the renewable energy system
 - Tax benefits are available to the taxpayer-developer
 - Developer bears up-front costs of installing the system and is responsible for financing, construction, and maintenance
- Community wind projects are in development in Minnesota, Ohio, North & South Dakota, Texas, and elsewhere

Other Recent Legislative Developments

- On September 26, 2010, the House passed a Rural Energy Efficiency Loans Bill (HR 4785) that would establish a loan program to help consumers in rural areas reduce their electricity consumption by retrofitting their homes and small businesses with new efficiency measures.
 - Rural Energy Savings Program Act (nicknamed “Rural Star”) authorizes \$4.9 billion in loan authority for the Agriculture Department’s Rural Utilities Service (RUS) to make interest-free loans to rural cooperatives, which would in turn would make loans to homeowners, farmers and small businesses at no more than 3% interest.
 - Loans between \$3,000 and \$7,500, could be used for a variety of off-the-shelf commercial technologies, such as sealing, insulation, HVAC systems, boilers, roofs, and other energy-saving improvements
 - Customers would be required to repay the loans within 10-20 years, which will come primarily through savings on their energy bills. The co-ops would then repay their loans to the government.
 - Companion Senate bill (S. 3102) is pending
- Prospects for “comprehensive” federal energy legislation
 - May be passed in “chunks”

Questions?

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Renewable Energy For America Program

USDA, Rural Development
Tennessee



Committed to the future of rural communities.

What is the Renewable Energy For America Program?

- **Program designed to assist farmers, ranchers and rural small businesses with renewable energy and energy efficient improvement projects**
- **This program provides grants and loan guarantees for renewable energy and energy efficiency projects**
- **Originally created as a 5 year program. Renewed and expanded in the latest Farmbill.**

Definitions



- Renewable Energy System is a process that produces energy from renewable energy sources (energy derived from a wind, solar, biomass, geothermal, or anaerobic source)
- Energy Efficiency Improvement is an improvement to a facility or process that reduces energy consumption

Energy Program Eligibility

- Applicant

1. Agricultural Producer or Rural Small Business
2. US Citizens or Permanent Residency
3. Entities 51% or + US owned
4. No Fed Judgments, Delinquencies, Debarment
5. Demonstrated Financial Need!!! (Grants)

* If applicant has received one or more grants under program then satisfactory progress must be made towards completion of any previously funded projects before any subsequent funding awarded.

Eligibility

- Project

- A. Purchase a Renewable Energy System or Make Energy Efficiency Improvements
- B. Precommercial or Commercially Available Technology
- C. Technical Merit (Determined by Tech Report)
- D. Rural Area location (Under 50,000 Population)
- E. Applicant = Owner, control of O&M, 3rd party can be used to manage
- F. Site controlled by applicant for financing term
- G. Revenue sufficient to cover O&M, Management, debt service for the life of the project.

Energy Program Eligibility

- **Grants request can be up to 25% of total eligible project costs**
 - Renewable Energy:
 - \$2,500 to \$500,000
 - **If total eligible project costs over \$200,000 then Business level feasibility study.**
 - Energy Efficiency
 - \$1,500 to \$250,000
 - **If total eligible project costs are over \$50,000 then an energy audit is required, otherwise energy assessment.**

So What Costs Are Eligible?

- 1. Post-application purchase and installation of equipment, (or remanufactured), except agricultural tillage equipment, used equipment, and vehicles**
- 2. Post-application construction or improvements, except residential , i.e., now assisted livings.**
- 3. Energy Audits or Energy Assessments**
- 4. Permit and License Fees**
- 5. Professional Service Fees, except for app prep**
- 6. Feasibility Studies and Technical Reports**



So What Costs Are Eligible

7. Business Plans

8. Retrofitting

9. Construction of a new EE facility in some cases only!

REMEMBER – Only costs identified in the energy audit for EE improvements are allowed!

Application Requirements

- **Must meet eligibility requirements for:**
 - **Applicant**
 - **Project**
 - **Financial Need**
 - **Replicability**
 - **Complete application**

- **To qualify for funding, the application will also have to pass:**
 - **Technical Review**
 - **National Environmental Policy Act (NEPA) Review**

Guaranteed Loan Program

- Eligibility requirements are the same
- Loans made by private lender are insured by Federal Government
- Guaranteed Loan funds can be used for working capital and land acquisition (which is different than the grant program)
- Amount of loan (or combined loan and grant) made will not exceed 75% of eligible project costs
- Minimum is \$5,000 and Maximum is \$25 Million
- Projects with total eligible project costs less than \$600,000 use a simplified application process

Guaranteed Loan Program (cont.)

- Interest Rates negotiated between Lender and Borrower
- Collateral sufficient to protect interests of Lender and Government
- Equity requirements – Loans of \$600K or less 15%
Loans over \$600K 25%
- FMV of RE pledge can be counted towards equity
- Lender must be an eligible lender.

Guarantee Thresholds

- 85% for loans of \$600,000 or less
-
- 80% for loans greater than \$600,000 up to \$5 million
-
- 70% for loans greater than \$5 million up to \$10 million
-
- 60% for loans greater than \$10 million up to \$25 million

Fiscal Year 2010 Funding

- Tennessee is currently accepting applications for 2011
- \$10 Million in allocation for Guaranteed Loan & Grant
- 50 Applications received for FY 2010. 32 Applications Awarded in first two rounds, 18 pending National Office Reserve Requests

8 Regional Area Offices to Serve You

Union City Area Office

Harriet Cannon - Area Director
1216 Stad Ave, Ste 3
Union City, TN 38261
harriet.cannon@tn.usda.gov
731-885-6480 x4
800-342-3149 x1497

Nashville Area Office

Chris Westbrook - Area Director
3322 West End Ave, Ste 302
Nashville, TN 37203
chris.westbrook@tn.usda.gov
615-783-1359
800-342-3149 x1359

Tennessee State Office

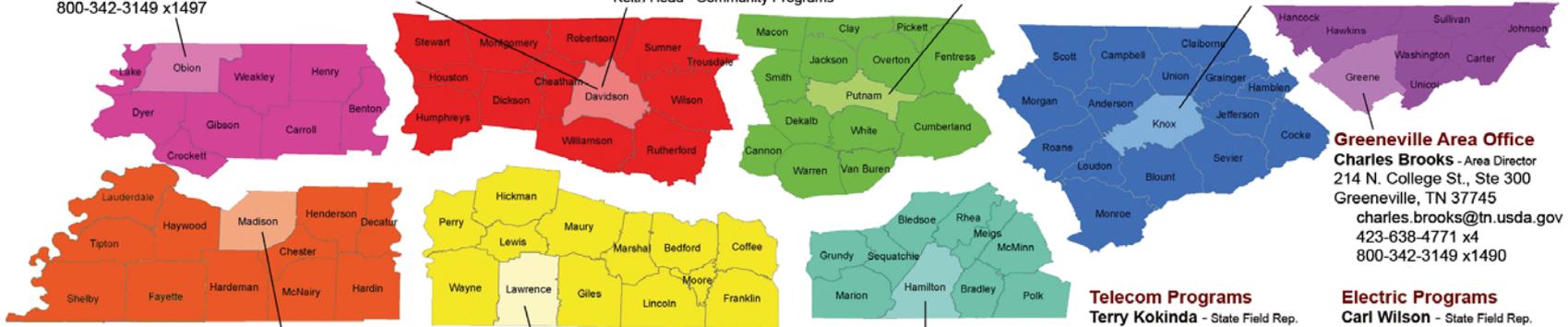
Bobby Goode - State Director
3322 West End Ave, Ste 300
Nashville, TN 37203
615-783-1300
800-342-3149
Joe Woody - Housing Programs (acting)
Dan Beasley - Business Programs
Keith Head - Community Programs

Cookeville Area Office

Jerry Jolley - Acting Area Director
390 S. Lowe Ave, Ste K
Cookeville TN 38501
jerry.jolley@tn.usda.gov
931-528-6539 x2
800-342-3149 x1493

Knoxville Area Office

Jerry Amonett - Area Director
4730 New Harvest Ln, Ste 300
Knoxville, TN 37918
jerry.amonett@tn.usda.gov
865-523-3338 x4
800-342-3149 x1491



Jackson Area Office

Kathy Brantley - Acting Area Director
85G Stonebrook Commons
Jackson, TN 38305
kathy.brantley@tn.usda.gov
731-668-2091 x2
800-342-3149 x1495

Lawrenceburg Area Office

Faye Rodgers - Area Director
237 Waterloo Street
Lawrenceburg, TN 38464
faye.rodgers@tn.usda.gov
931-762-6913 x4
800-342-3149 x1494

Chattanooga Area Office

Rickey Hickman - Area Director
309 A North Market Street
Chattanooga, TN 37405
rickey.hickman@tn.usda.gov
423-756-2239
800-342-3149 x1492

Telecom Programs

Terry Kokinda - State Field Rep.
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615-826-2384

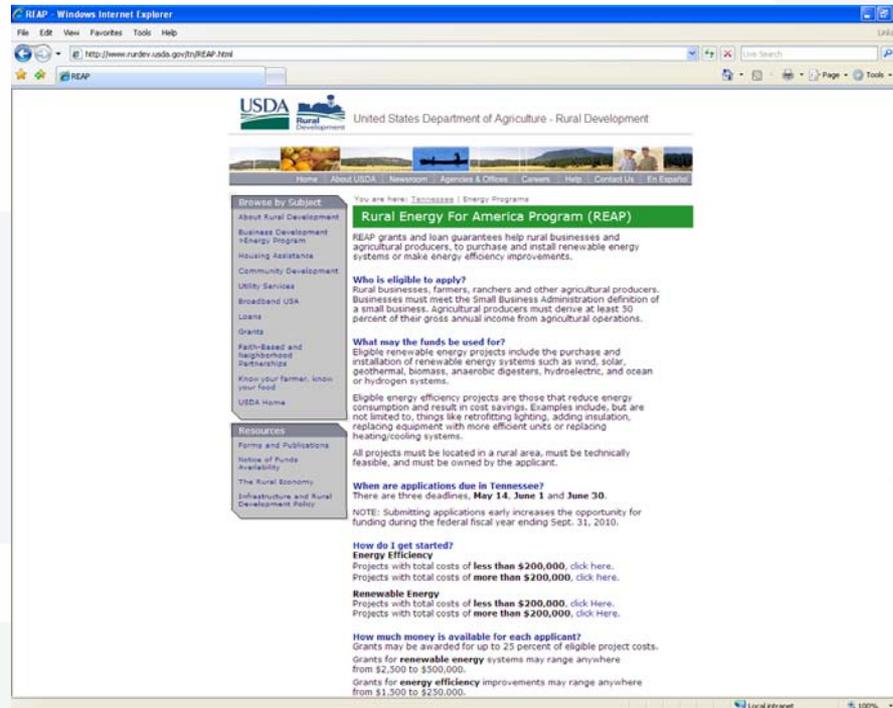
Electric Programs

Carl Wilson - State Field Rep.
Clarksville, TN
carl.wilson@wdc.usda.gov
931-358-3225

Greeneville Area Office

Charles Brooks - Area Director
214 N. College St., Ste 300
Greeneville, TN 37745
charles.brooks@tn.usda.gov
423-638-4771 x4
800-342-3149 x1490

Energy Website



<http://www.rurdev.usda.gov/tn/REAP.html>



Provides application materials for REAP



Pathway Lending

Go Green. Save Green.



Overview:

Pathway Lending is a **Private, Non-Profit Economic Development Lender** certified by the U.S. Department of Treasury. We provide loans to **Tennessee businesses** lacking access to traditional financing.

Founded: 1999

Lasting Community Impacts: \$45+ Million Loaned

- 450+ Loans to 350 Tennessee Businesses.
- 1,500 Jobs Created, 2,600 Jobs Retained in Tennessee.

Why Energy Efficiency?

A BIG Opportunity for Tennessee Businesses.

- **Energy Impacts:**

Energy efficiency measures have the potential to reduce U.S. energy demand growth by more than 20% by 2020.

- **Economic Development Impacts:**

Jobs created/retained with savings & improved productivity.

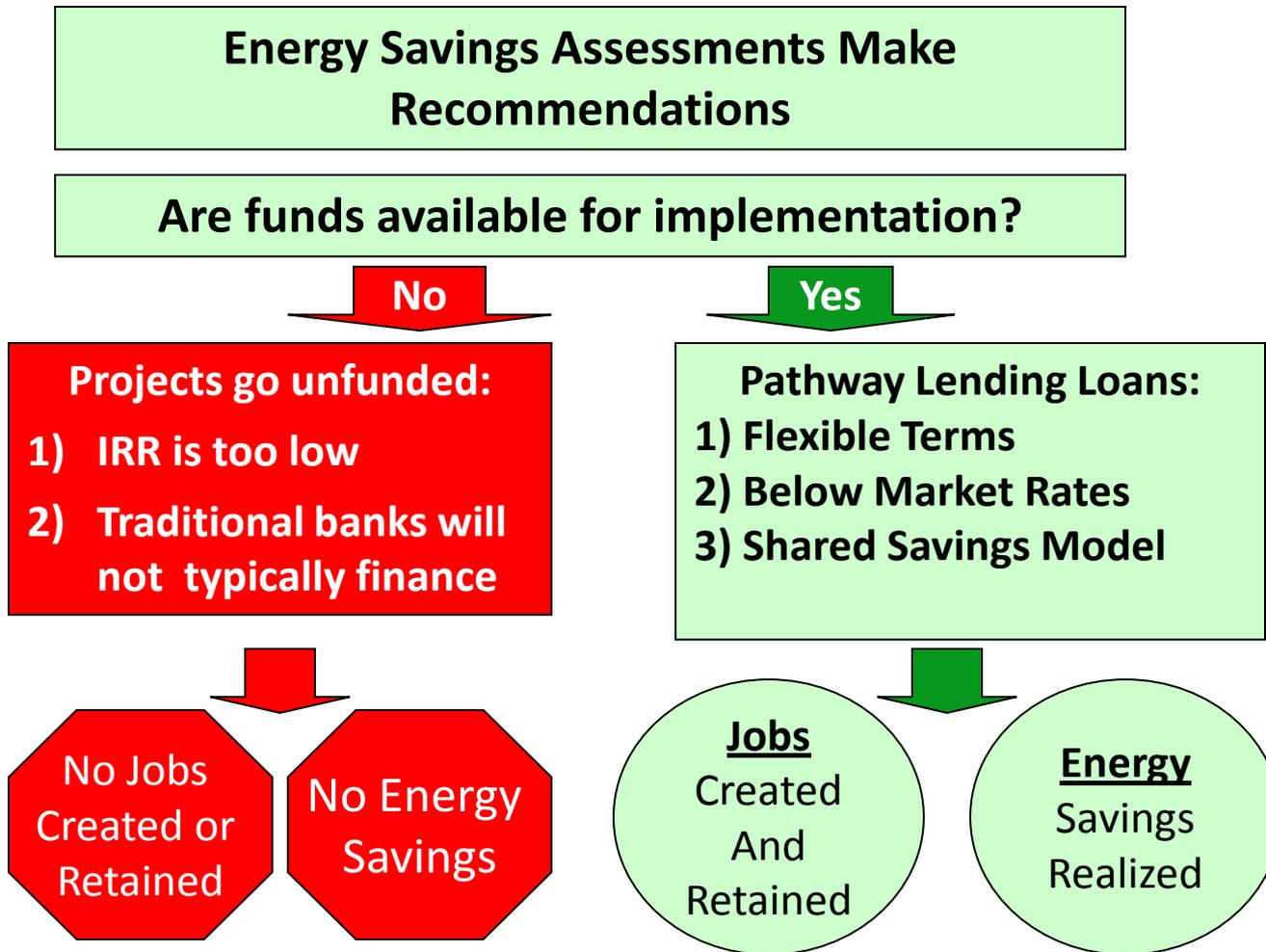
- **Companies in Distressed Communities:**

88% of large industrial facilities/ 1,556 facilities in Tennessee.

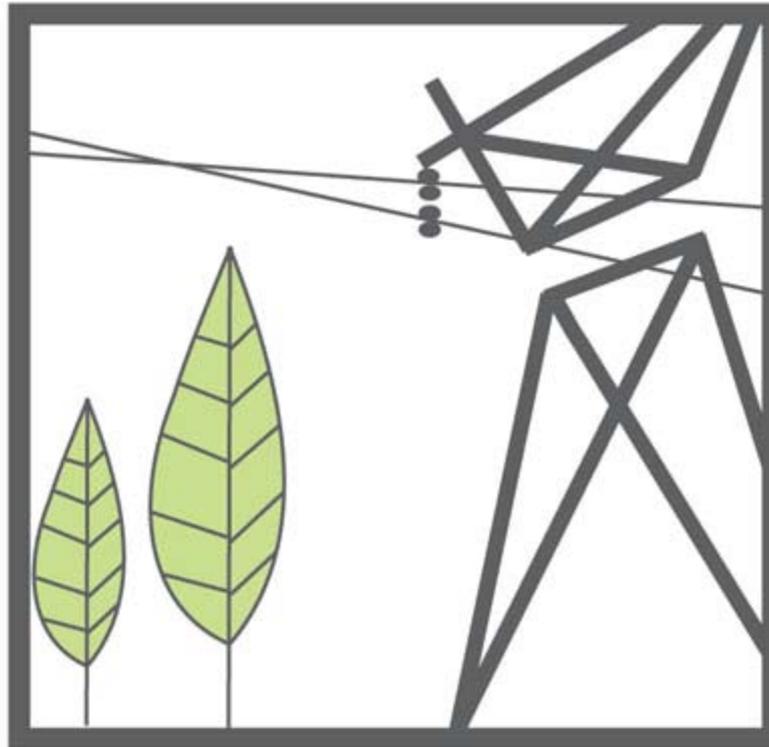
- **Unrealized Savings:**

75% of energy efficiency recommendations go unimplemented.

Impacts of Financing:



Pathway Lending Energy Efficiency Loan Fund



Energy Efficiency Loan Fund Basics:

What:

A low-interest, revolving loan fund to finance energy efficiency and renewable energy projects in Tennessee.

Target Markets:

Industrial, Commercial, and Private Non-Profit facilities located in the state of Tennessee.

Projects:

Any investment in a fixed asset that provides significant reductions in energy, emissions, and/or utility consumption.

Energy Efficiency Loan Fund Basics:

Loan Amount:

Range from \$20,000 - \$1,000,000

Program Features:

- Below Market Rates
- Terms Up to 10 Years
- Up to 100% Project Financing:
 - Assessment, engineering, purchase and installation costs.
- Shared Savings Option – Up to 50% Share!

Energy Efficiency Loan Fund Basics:

Shared Savings Option:

Projects with repayment periods of less than 10 years are eligible to participate.

Borrowers retain up to 50% of Energy Cost Savings while the remaining savings repay the loan.

May allow companies to double the simple payback period.

Application Considerations:

Financial Test:

Can the company repay the loan, even if no savings occur? What do the last 2 years financials look like?

Energy Savings Test:

Does the company have a complete assessment, audit, or vendor proposal detailing project cost and energy savings? Can the savings repay the loan within 10 years?

Job Creation/Retention Test:

How many jobs will be retained and/or created due to the savings generated by this project?

Applicant Profile A:

Type of Industry

Tire Production

Energy Efficiency Measure(s)

Optimize boiler operation,
improve insulation

Project Cost

\$180,000

Annual Energy Savings

93,000 MMBtus of natural gas
224,000 gallons of No. 6 fuel

Annual Cost Savings

\$75,000

Applicant Profile A:



Energy Efficiency Loan Amount: \$180,000

Simple Payback with 5% Fixed Interest Rate	
Monthly Savings Amount	\$6,250
Monthly Payment Amount	\$6,250
Term	31 Months

Payback with 5% Fixed Interest Rate & Shared Savings Option	
Monthly Savings Amount	\$6,250
Monthly Payment Amount	\$3,125
Term	66 Months
<i>Shared Savings Retained</i>	<i>\$206,250</i>

Applicant Profile B:

Type of Industry	Steel Products
Energy Efficiency Measure(s)	Upgrade burners, retrofit lighting with T8 ballasts
Project Cost	\$1,000,000
Annual Energy Savings	95,000 MMBtus of natural gas 400,000 Kwh electricity
Annual Cost Savings	\$375,000

Applicant Profile B:



Energy Efficiency Loan Amount: \$1,000,000

Simple Payback with 5% Fixed Interest Rate

Monthly Savings Amount	\$31,250
Monthly Payment Amount	\$31,250
Term	35 Months

Payback with 5% Fixed Interest Rate & Shared Savings Option

Monthly Savings Amount	\$31,250
Monthly Payment Amount	\$15,625
Term	75 Months
<i>Shared Savings Retained</i>	<i>\$1,171,875</i>



Pathway Lending

Financing Businesses. Strengthening Communities.

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Pathway Lending



NATURAL CAPITAL INVESTMENT FUND

THE CONSERVATION FUND



Public/private financing of renewable energy projects

**Federal Reserve Bank webinar
October 21, 2010**

Rick Larson, NC Program Director

rlarson@conservationfund.org; www.ncifund.org

P.O. Box 271

Chapel Hill, NC 27514





NATURAL CAPITAL INVESTMENT FUND

THE CONSERVATION FUND

Overview

- Business investment arm of The Conservation Fund -- leading US land and water conservation organization (www.conservationfund.org)
- Patient capital for businesses that use natural resources sustainably, including:
 - Renewable energy & fuels
 - Energy efficiency
 - Green building projects & products
- \$8 M fund founded 2001; 45 companies funded to date; average amount ~ \$100,000
- \$35,000 - \$250,000 to any one company; flexible terms: deferred principal; balloon payments with longer amortizations
- NCIF reduces risk for traditional lenders through subordination, technical assistance, and sector expertise
- Good fit with renewable energy companies:
 - young
 - new sectors
 - need patient capital



NCIF Portfolio company example

- **Company:** FLS Energy, Inc.
- **Location:** Asheville, NC
- **Total Project Costs:** \$250,000; NCIF \$200,000
- **About the Company:** Designer/installer of solar thermal (hot water heating) and solar photovoltaic (electric generation) systems for residential and commercial customers.



Drivers for growth: a) state and federal tax credits for solar energy installations; b) 2007 North Carolina Renewable Portfolio Standard (RPS) c) growing public awareness about global warming.

Signature projects:

- 100-panel solar thermal system on the roof of the LEED-certified Proximity Hotel in Greensboro, NC.
- 900 individual solar thermal systems for Camp Lejeune housing.
- SEPA program: Public agencies/non-profits can install solar thermal systems at minimal cost, purchase power at below market prices.



- **Role of NCIF:** Funded expansion of work crews and development costs for 500 MW solar farm in Haywood County **Rationale:** Creating good jobs with benefits (health insurance); draws on local green job training program.
- **Company Website:** www.flsenergy.com

FLS Energy, Inc., Asheville, NC: Public/private financing of Solar Energy projects

1. Relationship with renewable energy tax credit investor fund.
2. Installs solar thermal (hot water) system on roof of non-profits, companies, public agencies. No upfront cost to client.
3. Finances installation with internal working capital & lines of credit.
4. Owns system; sells renewable energy tax credits: 80% at commissioning, last 20% flows after 90 day certification.
5. Creates long-term revenue streams:
 - a) Sale of RECs on annual basis to utility.
 - b) 10 year contract to sell client BTU's of hot H₂O at 10 – 40% below-market.



Challenges:

- A. Identifying enough tax credit investors.
- B. Cash flow during construction (until commissioning).
- C. REC purchasers only in states w/ Renewable Portfolio Standards.





Financing Issues: Lessons from the field

- What's it worth? (Collateral)
 - Useful life
 - Property values and “green” revenue potential still being proven
 - Tax credit investors have priority
- Upfront costs (Capital)
 - As technology costs have fallen, financing mechanisms more important
 - pick the right technology
 - construction working capital the issue
 - create financing structure to meet the user's needs
- Sources of risk (Capacity, Conditions & Character)
 - Management teams (mission driven; moving laterally from similar industries)
 - Markets & customers are slow to develop
 - Regulation dependency (need a national RPS)
 - Macroeconomic factors (housing; credit; commodities)

Wrap-Up

- Thanks to all
- For a copy of this presentation go to:
http://www.richmondfed.org/conferences_and_events/community_development/2010/fin_opps_rural_comm_webinar_improving_energy_infrastructure_20101021.cfm
- Next Webinar in the Series
 - November 16, 2010 at 10 a.m.
 - **Preserving Housing and Historic Buildings**
 - Register online at
www.clevelandfed.org/Community_Development/events/Rural_Community_Webinars



Financing Opportunities in Rural Communities

A Central Appalachian Webinar series

Improving Energy Infrastructure

October 21, 2010



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