



PACE Finance: Innovative Funding to Accelerate the Retrofitting of America's Buildings for Energy Independence

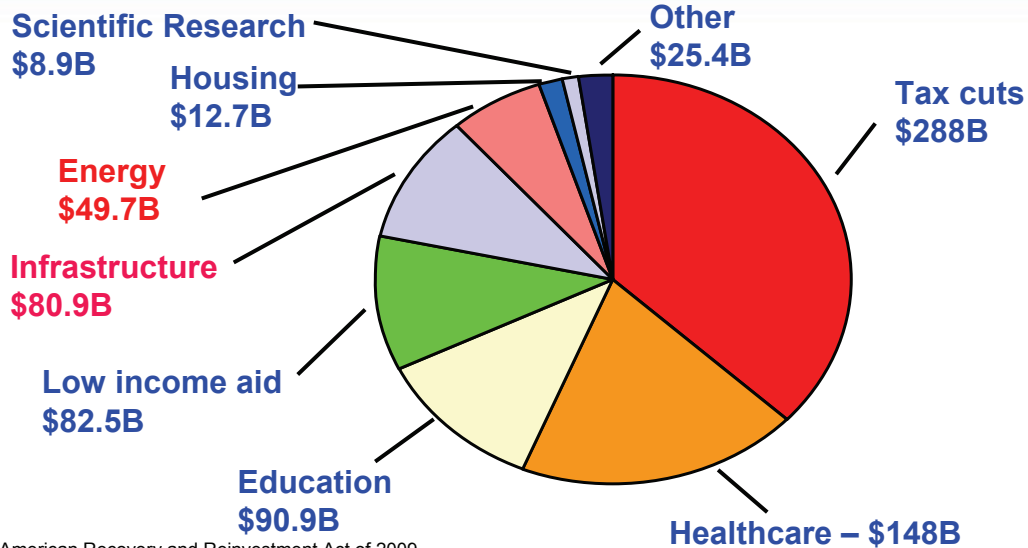
- **Panel Detail:**
- **Wednesday, April 29, 2009**
11:00 AM - 12:15 PM
- **Speakers:**
 - **Erik Caldwell**, Energy Policy Advisor, Office of the Mayor of San Diego
 - **Stephen Compagni Portis**, Chairman and CEO, Renewable Funding LLC
 - **Thomas Gackstetter**, Director of Energy Efficiency Programs, Los Angeles Department of Water & Power
 - **Craig Hill**, Principal, Northcross, Hill & Ach Inc.
 - **Amory Lovins**, Co-Founder, Chairman and Chief Scientist, Rocky Mountain Institute
 - **Dan Probst**, Chairman, Energy and Sustainability Services, Jones Lang LaSalle
- **Moderator:**
 - **Jeffrey Tannenbaum**, Founder and President, Fir Tree Partners



Clean Renewable Energy Bonds

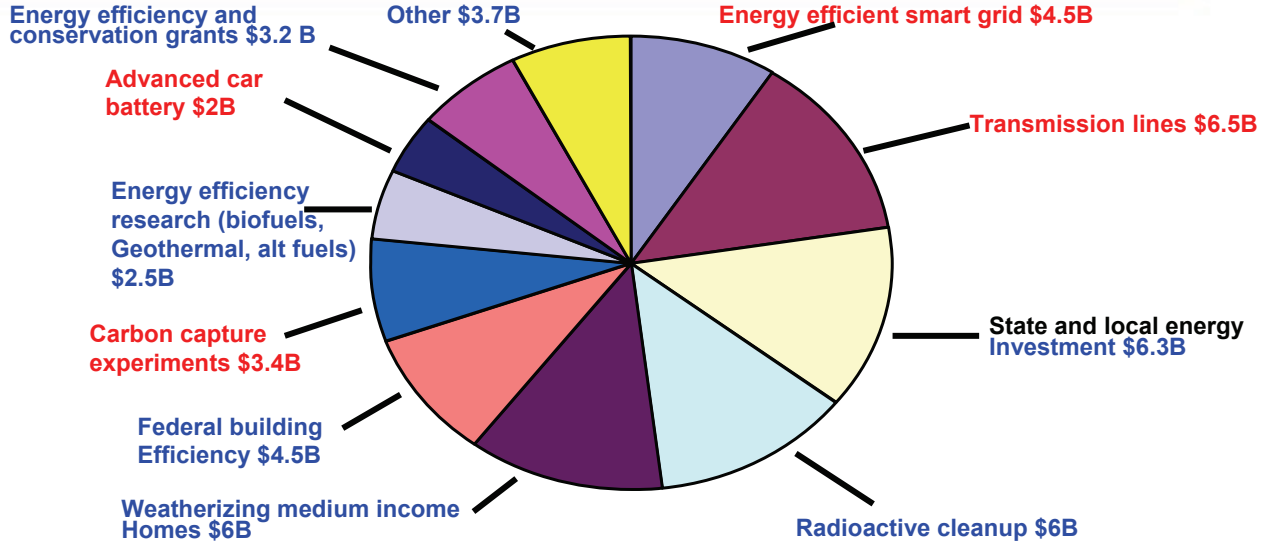
- CREB = bond that offers cooperatives, municipalities and public agencies the equivalent of an interest-free loan for financing qualified energy projects by providing a tax credit to the bondholder in lieu of the issuer paying interest to the bondholder
- The Energy Improvement and Extension Act of 2008 allocated \$800 million for new CREBs
- The American Recovery and Reinvestment Act of 2009 allocated an additional \$1.6 billion for CREBs. The Energy Improvement and Extension Act of 2008 also extended the deadline for previously reserved allocations until December 31, 2009

The American Recovery and Reinvestment Act of 2009



Source: The American Recovery and Reinvestment Act of 2009.

The American Recovery and Reinvestment Act of 2009 Energy Expenditures

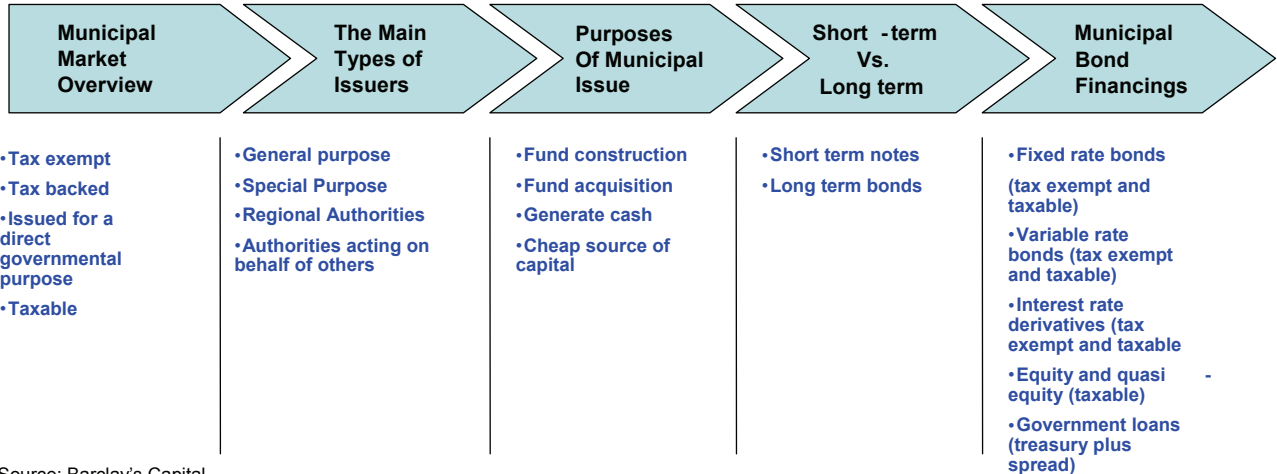


Source: The American Recovery and Reinvestment Act of 2009.



The United States Municipal Market

The United States has over \$2.4 trillion of Municipal Debt Outstanding

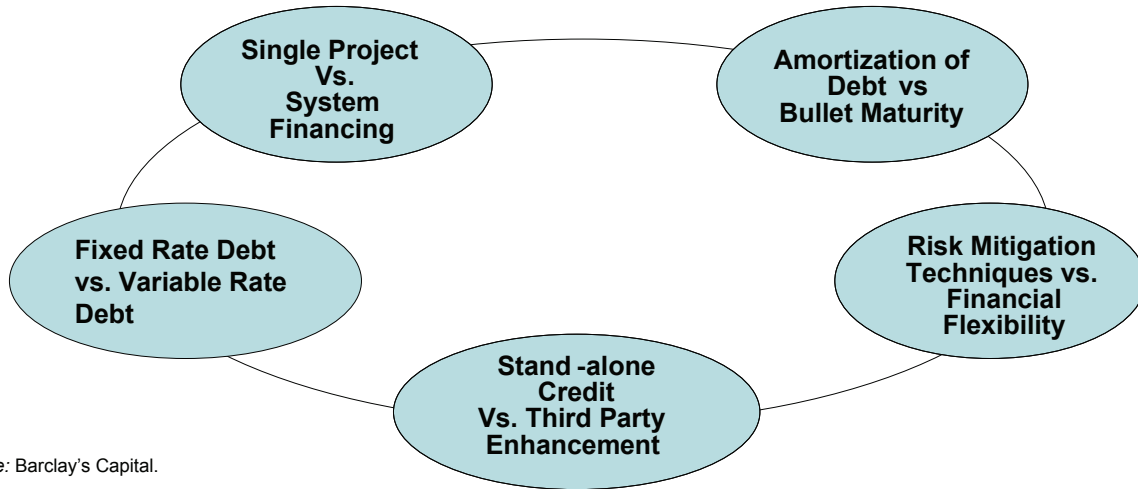


Source: Barclay's Capital.

Municipal investment banking a method of financing local projects



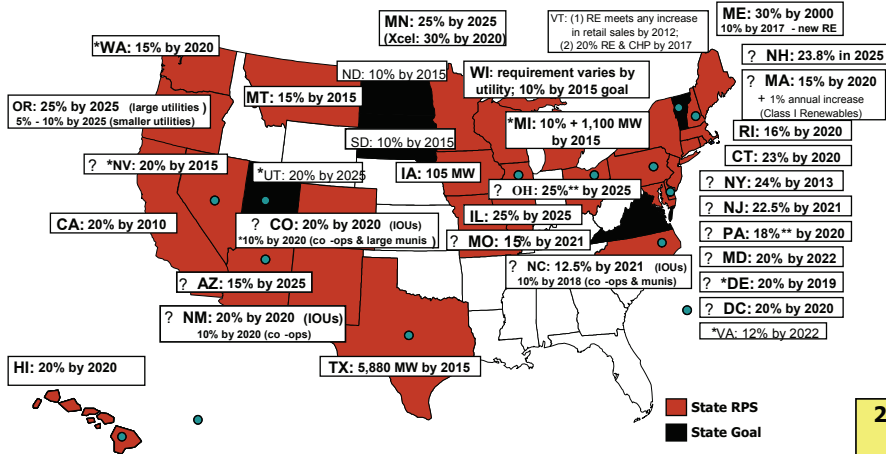
Develop, market and sell investment grade debt structure with a high probability of repayment that achieves the lowest possible borrowing cost



Source: Barclay's Capital.

Will new capacity meet renewable targets set by states?

State Renewable Portfolio Standards and State Renewable Energy Goals



Source:

**28 states have a RPS;
5 states have a RE goal**

Source: DSIRE, Interstate Renewable Energy Council.

What Public Financial Incentives beyond Federal Production Tax Credits?



State	Renewable Energy Production Incentive	Property Tax Exemption	Sales Tax Exemption	Other Tax Credits
AZ		X		
CA	X		X	
CT		X		
IL		X		
MA	X	X	X	X
MN	X	X	X	
NJ			X	
NY		X		X
OH			X	
OR		X		X
PA				X
RI			X	X
WA	X		X	

Sample matrix of asset classes and environmental issues

Sample Matrix of Asset Classes and Environmental Issues			Environmental issue							
			Climate Change	Energy	Water	Biodiversity Conservation	Pollution	Agriculture	Sustainable Development	Raw Material Usage
Asset Class	Equity	Public Equity				Shareholder dialogue	Best in class screening			Best in class screening
		Private Equity		Alternative energy VC		Bio-Prospecting VC		Biotech VC	Municipal bonds for 'smart growth'	
	Fixed Income	Bonds	Tax exempt 'green bonds'	Screened corporate bonds	Tax exempt private water filtration plant bonds		Tax exempt 'green bonds'			Screened corporate bonds
		Loans						Community development loans		
		Credit Enhancement		Alternative energy project finance guarantees	Water treatment project finance guarantees		Sewage treatment project finance guarantees	Loan insurance	Brownfield development portfolio insurance	
	New Approaches		CO2 Trading		Wetland banks	Carbon sinks	Nutrient trading; SOx trading	Carbon sinks		

Source: Barclay's Capital.

Renewable incentives programs in the United States

- New Solar Homes Partnership - California Energy Commission
 - Provides incentives for solar production from PV installations applicable to custom homes and small developments
- California Solar Initiative – California Public Utilities Commission
 - Performance based incentives focused on reaching 3000 MW Solar capacity by 2016 applicable to non-residential buildings and existing homes
- Wisconsin
 - Has four solar buy back programs offered by utilities to electricity consumers to purchase renewable energy
- Green Tag Purchase - Northwest Solar Cooperative
 - An agreement by the NWSC to purchase solar and wind power at \$0.02/kWh through December 31, 2009
- Alternative Energy Investment Tax Credit - Montana
 - Alternative energy investments greater than \$5000 receive a tax credit of 35% on corporate income tax

Renewable Investors' Financing Structure Decision Matrix



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Scenario	Developer can use tax benefits	Developer can fund project costs	Developer wants to retain stake in project	Developer wants easy cash distribution	Project has low projected IRR	Project already exists	Most suitable financing strategy or structure
1	No	No	No	Yes	N/A	No	Sell project to strategic investor
2	Yes	Yes	Yes	No	No	No	Corporate
3	No	Limited	Yes	No	No	No	Strategic Investor Flip
4	No	Limited	Yes	Yes	No	No	Institutional Investor Flip
5	No	Limited	Yes	No	Yes	No	Cash Leveraged
6	No	Limited	Yes	Yes	No	Yes	Institutional Investor Flip
7	No	Yes	Yes	Yes	N/A	Yes	Pay as you go
8	No	Limited	Yes	Yes	Yes	No	Back leveraged



Panelist slides

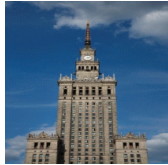


Jeffrey Tannenbaum Slides

Founder and President, Fir Tree Partners

Retrofitting America's Buildings: How Do We Dramatically Accelerate?

40% of our nation's greenhouse gas emissions (GHG) are from buildings and homes



Commercial



Homes

Number of Units	5 million	100 million
% of US GHG Emissions	20%	20%
Number of Units Per 1% of GHG	250,000	5 million

Each building retrofit = 20 Homes



=





Solution: PACE Finance



PACE = Property Assessed Clean Energy Finance

Definition: Property owners borrow money from a newly established “municipal financing district” to finance energy retrofits (efficiency measures and micro renewable energy) and repay over 20 years through annual special tax on property tax bill

Impact: Property tax lien oriented financing that dramatically improves the economics of energy retrofits (efficiency measures and micro renewable energy)

Steps:

1. State enabling legislation allows for special municipal taxing districts
2. Municipality (city or county) creates a special “PACE” district
3. “PACE” district issues a “PACE” master bond
4. Commercial/residential real estate owners apply for PACE funds to install hyper energy efficiency measures and renewable energy production (e.g. solar)
5. PACE funding treated as senior “property tax lien” and repaid by real estate owner over 20 years as annual property tax surcharge

The Advantages of PACE Finance:



1. Real Estate Owner:

- Substantially reduced up front costs for energy retrofits
- Improved return on investment/positive cash flow on retrofits (annual savings > cost)

2. Municipality:

- No credit or general obligation risk: Obligation is liability of real estate owner
- Job creation
- Greenhouse gas reductions/energy independence
- Opt in: Only those real estate owners who opt in pay for it

3. Lender:

- Super senior loan with virtually no risk of capital impairment
- Property tax liens are senior to first mortgage debt
- Historical loss rates on property tax liens are diminimous
 - 97% of property taxes are current
 - Property tax losses are less than 1%

Department of Energy Loan Guarantees: The Needed Catalyst



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PACE Finance Main Obstacle: Limited bond buyers and high financing cost

- PACE bonds are taxable
- The market for taxable municipal bonds is illiquid, small and expensive

	Bond type (10 yr+ duration) taxable munis	Treasury Bonds	Tax Exempt Munis	Small Taxable Munis
Market Size	\$540 billion	\$330 billion	\$6 billion	?
Rate	3.8%	4.5%	7%+	?

- Solution:** Department of Energy (“DOE”) guarantee
- PACE bonds/liens now viewed as treasury bond surrogate
 - PACE bond issuers and buyers benefit from deeply liquid, large treasury bond market - \$500 billion + market
 - Issuer/Bond Buyer Advantage:
 - Interest rates reference the treasury bond market
 - DOE Advantage:
 - Serves as the catalyst for our nation’s retrofit program and has virtually no long term credit risk