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Green Energy Projects in the United States

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Project Finance Overview

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Classic Principles of Project Finance

- Distinguished from Balance Sheet Finance
  - Unlimited liability of creditworthy borrower
  - Perhaps unsecured
- Financing of a project on a "stand-alone" basis with repayment from cash flow from the project assets
  - Limited recourse to other participants
  - Separate legal entity in most cases
  - Project economics and structure are paramount, not the creditworthiness of the borrower
  - Little impact on sponsor's balance sheet

Classic Principles of Project Finance

- Typical Participants
  - Sponsor
  - EPC Contractor
  - Suppliers
  - Operator
  - Off-taker
  - Equity Investors
  - Debt Lenders

Classic Principles of Project Finance

- Fundamental Concept: Each risk should be allocated to the party best able to manage that particular risk
  - Sometimes through structure
  - Usually through contractual arrangements
  - Security plays a role

Risk Mitigation

- How to Mitigate Particular Risks
  - Construction
    - Contracts + guaranties
    - Contingency / cost-overrun allowances & cushions
    - Insurance products
  - Operation
    - Contracts + guaranties
    - Cash reserves & funds
    - Insurance products

Risk Mitigation -- Construction

Found in *EPC CONTRACT* Risk Mitigants	RISKS during CONSTRUCTION					
	Cost Overrun	Delays	Start-up & Testing Problems	Contract/ Payment Defaults	Hidden Defects	Force Majeure
Liquidated Damages	X	X	X			
Performance Accounts				X		
Escrow Accounts				X		
Warranties					X	
Contingency Fund	X	X	X	X		X
Insurance		X				X

Risk Mitigation – Operation

Found in *PPA &/or O&M* Risk Mitigants	RISKS during OPERATION					
	Operating Efficiency Problems	Increase: Routine O&M	Increase: Major O&M	Market Demand & Pricing	Input Availability	Force Majeure
Take-or-pay				X		
Put-or-pay					X	
Pass through		X				X
Debt service reserve fund	X		X		X	X
Maintenance reserves			X			
Cash traps	X	X		X		
Insurance						X
Tracking accounts				X		
Equity Kickers				X		

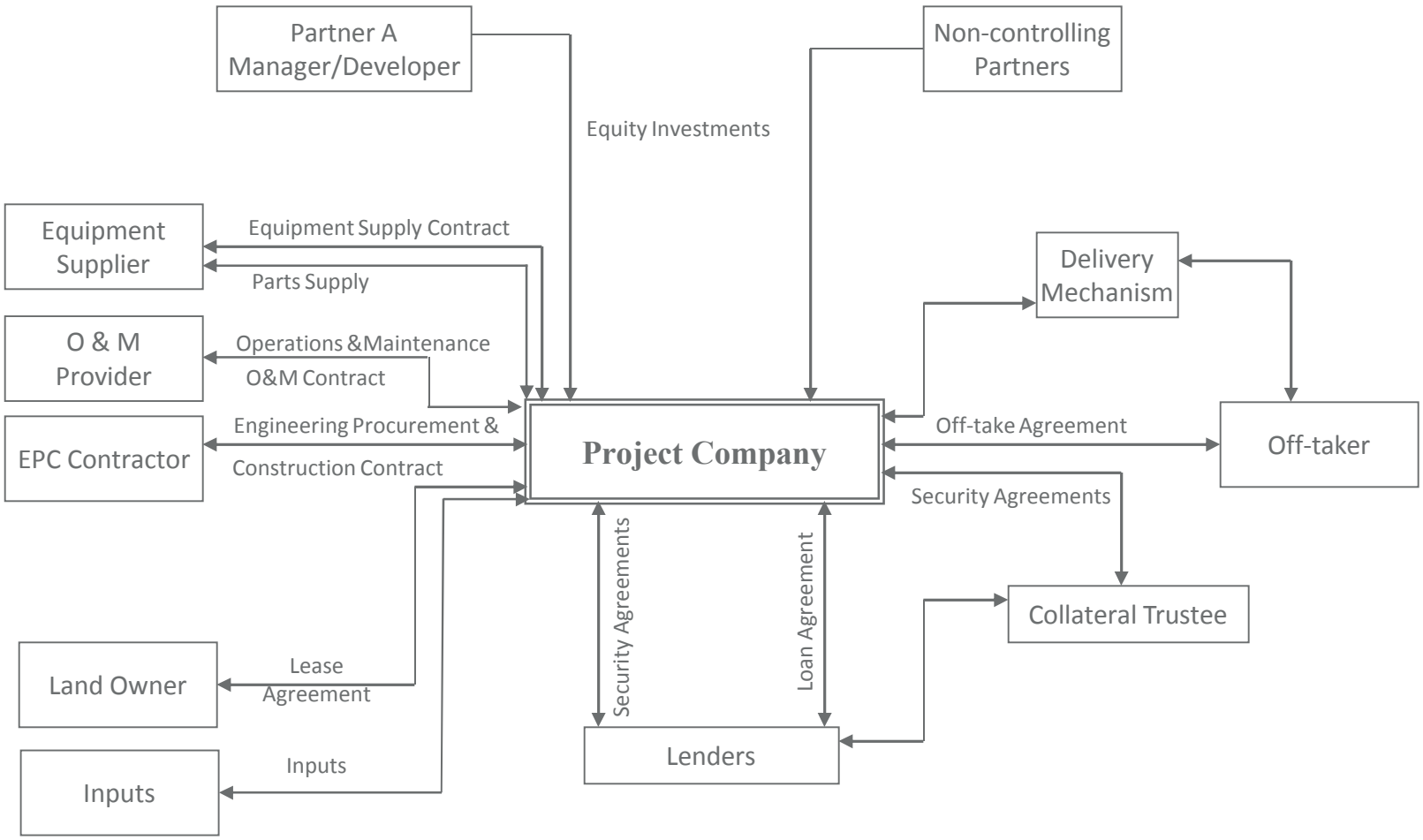
So Why Do It?

- Leverage advantages
- Off-balance sheet treatment conducive to relatively or very large projects/multiple projects
- To achieve risk allocation results
- Project financing is well suited to long-lived, large-scale, capital-intensive investments

Learning From the Past

- Project sponsors can walk away from non-performing assets
- Sponsors need flexibility to grow and change projects
- There is greater reliance on spot markets, even if hidden behind a firm off-take agreement
- Green power raises revenue stream, input, renewable credits and other issues
- Commercial and investment banks are lenders, traders, project sponsors and portfolio managers, all at the same time
- There is a need to efficiently bundle small projects into the project finance model

The Anatomy of a Model Project Finance Deal



The Anatomy of a Model Project Finance Deal
Key Project Agreements

Off-take Agreement – The Cornerstone

- Term of the Off-take Agreement will drive loan tenor
- Pricing and certainty of revenue will drive interest rates and reserve requirements
- Lenders expect customary allocation of risk between project company and off-takers (e.g. force majeure, adequate time for maintenance, delivery risk)

Engineering, Procurement and Construction Contract

- Lenders do not take technology or completion risk
- Terms & Conditions of the EPC Contract will allocate completion risk between the Developer/Equity and the Contractor Performance Guarantees
- Liquidated Damages for late completion and deficient performance
- LDs should cover debt service relating to late completion
- LDs should cover a portion of reduced revenue stream

The Anatomy of a Model Project Finance Deal
Key Project Agreements (Cont'd)

Input Supply Arrangements

- Local Market
- Contracts with Suppliers & Aggregators
- InputSupply Studies
- InputSupply Strategy
- Long-Term Firm Supply Agreement
- Spot Market Strategies

The Anatomy of a Model Project Finance Deal
Key Financing Agreements

- **Financing Documents**
- **Loan Agreement**
  - **Pricing**
  - **Debt Service Reserves**
  - **Major Maintenance Reserves**
- **Collateral and Security Agreement**
  - **Cash Flow Waterfall controlled by Collateral Trustee**
  - **Consent and Agreement**
  - **Lender Step-In Rights**
- **Completion Agreement**
- **Pledge of Shares of Project Company**
- **First Lien on All Project Assets**
- **Opinions**

Flexibility In Project Finance Structures

- Permitted Expansions
  - Physical Requirements
  - Revenue Requirements
  - Coverage Requirements
- Melding of Financing Packages
  - Cross-Collateral
  - Priorities
  - Remedies

Recap — Successful Project Criteria - 1

- Equity and Debt Risks are Fairly Allocated – Reasoned Expectation of Adequate Equity Returns
- Feasibility of Concept and Technology is Demonstrated
- Base Case Projections (and Assumptions) Reasonable
- Inputs are Available and Cost is Dependable within Reasoned Limits
- Output is Saleable on a Committed or a Solid Market-Demand Basis
- Track Record of Participants (Contractor/Operator/Project Management)
- Interest/FX/Other Risks Managed

Recap — Successful Project Criteria - 2

- Completion risk is Addressed
- Permits, Licenses, Approvals in Hand or Otherwise Assured
- Political Environment is Stable in Fact or in Reasoned Expectation
- Equity Contributions (Base/Contingent) Adequate and Mechanism “Bulletproof”
- Overrun and Delay Risks Addressed
- Insurance Package Solid
- Project Assets/Collateral Package Adequate
- Debt Service (and Other) Reserves Assured

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Regulatory Issues

David I. Bloom
Partner, Washington Office

Does the Project Have Required Regulatory Approvals?

- Siting approvals
- Market-based rate approvals, including right to issue debt
- Market-participation approvals
- NERC reliability issues
- ERCOT issues
- Interconnection agreements
  - Specific issues for wind and hydro
  - Cost responsibility

Rate Issues

- Power projects – market-based rates
- Retail power – status of State regulation
- Electric transmission – incentives
  - Enhanced return on equity
  - Construction work in progress
  - Protection for unsuccessful projects

How Are “Green” Attributes Being Handled?

- “Green” attributes
  - Certification
  - Market arrangements – reserved or sold
  - Reservation of required attributes for operation
  - Flexible definitions for future changes

Does the Financing Properly Address Regulatory Issues?

- Maintenance of market-based rate authority by project and its investors
- Treatment of future capital costs/revenue impacts of integration issues for wind, hydro and other variable sources
  - Changing standards
- Step-in/foreclosure procedures that comply with regulatory requirements
- Regulatory impacts on security packages

Does the Financing Properly Address Regulatory Issues?

- Regulatory treatment of equity v. debt v. tax equity
  - Timing affects approvals required
  - Investment structure affects “affiliation” for market-based rate authority

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Incentives and Structures

Jeffrey Davis
Partner, Washington DC

Role of Incentives in Renewable Energy Projects

- Federal Tax Benefits
  - Production Tax Credit (PTC)
  - Investment Tax Credit (ITC)
  - Accelerated Depreciation (and shorter depreciable lives)
  - Bonus Depreciation (in narrow situations)
  - Collectively, the federal tax incentives can cover in excess of 50% of the capital costs of a typical wind farm
- Other Federal Incentives
  - Treasury Grant Program
  - DOE Loan Guarantee Program
- State and Local Incentives
  - PTC or ITC
  - Grants
  - Sales tax abatements
  - Property tax exemptions or PILOTs
  - Employment or payroll incentives
- RECs

PTC, ITC and Treasury Grants

- IRC § 45 provides a PTC based on the production and sale of electricity from certain renewable resources over a 10-year period:
  - 2.1 cents per kWh for wind, closed-loop biomass and geothermal
  - 1.1 cents per kWh for open-loop biomass, municipal solid waste, hydropower, and marine and hydrokinetic
- IRC § 48 provides an ITC equal to a specified percentage of the basis of certain energy property placed in service during the taxable year:
  - 30% credit for solar (10% after December 31, 2016), fuel cell (subject to $1,500 per .5 kw limitation) and small wind
  - 10% credit for geothermal, microturbine (subject to $200 per kw limitation), and combined heat and power (subject to capacity limitations)
- Treasury Grant is a cash payment in lieu of PTC or ITC to reimburse a portion of the cost of certain energy property:
  - 30% for wind, closed-loop biomass, open-loop biomass, § 45 geothermal, municipal solid waste, hydropower, and marine and hydrokinetic
  - 30% for fuel cell (subject to $1,500 per 0.5 kw limitation), solar and small wind
  - 10% for microturbine (subject to $200 per kw limitation), combined heat and power (subject to capacity limitations), § 48 geothermal and geothermal heatpump

Highlights of PTC, ITC and Grant

ATTRIBUTE	PTC	ITC	Grant
Governing Provision	IRC § 45	IRC § 48	ARRA § 1603
Type of Incentive	Production-based tax credit	Investment-based tax credit	Cash payment
Amount of Benefit	2.1 cents or 1.1 cents per kWh	30% or 10% of basis	30% of 10% of basis
Period of Benefit	10 year period	Placed-in-service date	Placed-in-service date
Timing of Benefit	Tax return over 10 years	Tax return for year PIS	Within 60 days of grant application
Effect of Other Subsidies	Reduction in PTC	No reduction in ITC	No reduction in grant
Recapture Period	None	5 years	5 years
Recapture Triggers	N/A	Transfer; change in use	Transfer to ineligible entities; change in use
Eligibility of Owner vs. Lessee	Owner (except for biomass)	Either	Either
Basis Reduction	None	50% of ITC	50% of grant
Placed-in-Service or Construction Deadline	December 31, 2012 (wind) or December 31, 2013 (others)	December 31, 2016 (generally)	PIS in 2009 or 2010, or construction started by December 31, 2010
Applicable Against AMT	Yes, first 4 years only	Yes	N/A
Requirement for Sale of Energy	Yes, to unrelated person	No	No

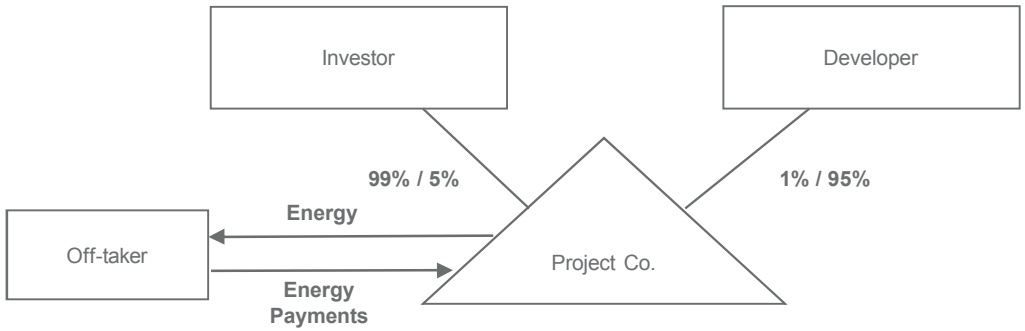
Need for Syndication

- Tax benefits generally are allowed to the project's owner (or in some cases, lessee) and can't be sold separately
- Most project developers either –
  - Do not have the federal tax base to efficiently absorb the tax benefits, or
  - Need to monetize the value of the tax benefits to finance the cost of developing the facility
- Thus, developers generally seek to efficiently monetize the tax benefits and obtain capital at favorable equity rates
  - Partnerships
  - Leases

Common Structures

- Direct Ownership
- End User Lease
- Partnership Flip (or Pre-Tax After-Tax Partnership Structure – PAPS)
- Partnership Flip with Pay-As-You-Go (or PAYGO Structure)
- Sale-Leaseback
- Sale-Leaseback with Pass-through
- Inverted Lease (or Lease Pass-through)
- Prepaid Power Purchase Agreement

Partnership Flip Structure

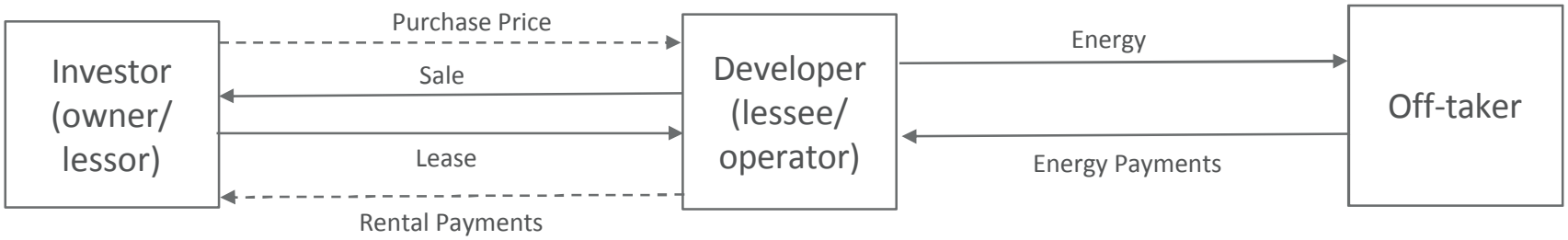


- Project typically is financed with some combination of Developer equity and Investor equity, and in some cases, debt
  - Investor acquires interest in project/company for cash
  - Investor typically makes a up-front investment, although Investor also may make pay-as-you-go payments (*i.e.*, PAYGO)
- Investor initially is allocated as much as 99% of tax items (PTC or ITC and depreciation) and subsequently "flips" down to 5%
- Cash may be distributed in the same manner that tax items are allocated, or Developer may have a cash preference for some period
- Developer generally has purchase option after flip point

Partnership Flip Structure (continued)

- Advantages
  - Efficient monetization of as much as 99% of tax benefits
  - IRS safe harbor in context of wind projects (Rev. Proc. 2007-65)
  - Widely used and accepted structure
  - Developer's purchase option is less costly
  - Can be used for PTC, ITC or grant
- Disadvantages
  - Developer must have at least a 1% interest in tax items
  - In case of ITC, Investor must be in partnership before placed-in-service date
  - Basis reduced by 50% of ITC or grant
  - Indirect ownership by any tax-exempt or governmental entities may preclude eligibility for grant
  - Complicated partnership tax rules

Sale-Leaseback Structure

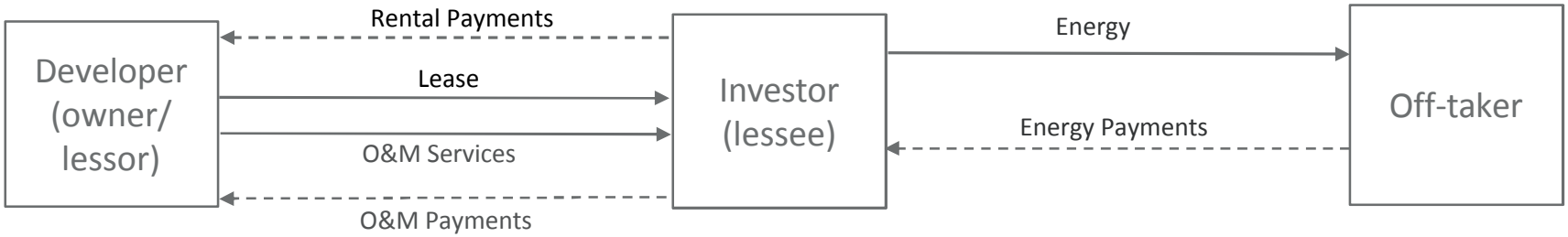


- Project is sold by Developer to Investor and then leased back to Developer
- Developer delivers power to Off-taker via a power purchase agreement
- Investor (as owner) claims tax depreciation and ITC/grant
- Developer generally has purchase option at the end of the lease term

Sale-Leaseback Structure (continued)

- Advantages
  - Common project finance structure
  - Provides 100% financing
  - Transfers 100% of tax benefits
  - Sale-leaseback can be made up to 3 months after placed-in-service date
  - Developer retains operational upside during lease term
  - ITC/grant based on FMV rather than Developer's cost
- Disadvantages
  - Generally not available for PTC because of ownership requirement
  - Developer's purchase option is more expensive
  - Tax-exempt or governmental entities can't be Developer or Investor
  - Lease must qualify as a true lease for US federal tax purposes

Inverted Lease Structure



- Developer leases project to Investor
  - Investor may prepay lease payments or Developer may monetize/securitize stream of lease payments
  - Developer may operate project on behalf of Investor pursuant to an operation & maintenance agreement ("O&M")
  - Investor delivers energy to Off-taker via a power purchase agreement
- Developer (as owner) claims tax depreciation
- Investor (as lessee) claims tax deductions for lease payments
- Developer elects to allow Investor to claim ITC/grant
- Project automatically reverts to Developer at the end of the lease term

Inverted Lease Structure (continued)

- Advantages
  - Leases (and pass-through of tax credits) are widely used/understood
  - Developer retains residual interest
  - Easy exit for Investor
  - Developer may capture some upside during lease term through a performance bonus under O&M agreement
  - ITC/grant based on FMV rather than Developer's cost
  - No basis reduction due to ITC or grant
  - Achieves separation of ITC/grant and depreciation
- Disadvantages
  - Generally not available for PTC because of ownership requirement
  - Investor recognizes income equal to 50% of ITC or grant over 5 years
  - Tax-exempt or governmental entities can't be Developer or Investor
  - Lease must qualify for credit pass-through election
  - Lease must qualify as a true lease for US federal tax purposes

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Green Energy Financing Issues

Cash Grant Financing and DOE Loan Guarantee Program

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Section 1603 Cash Grant Financing Issues

- Section 1603 of the American Recovery and Reinvestment Act provides that a qualifying renewable energy project is eligible for a Treasury cash grant equal to 30% of qualifying construction cost
  - Project must "commence construction" prior to Jan. 1, 2011 and be placed in service prior to a sunset date that varies by technology
  - Cash grant is in lieu of PTC or ITC

Section 1603 Cash Grant Financing Issues

- Debt Financing for Projects Electing the Grant
  - Initially after the Stimulus, Lenders would not lend to a project taking the grant
    - Would the grants be paid?
    - Triggers and consequences of recapture liability
  - July 2009 Cash Grant Guidance addressed recapture. Grant recapture only if:
    - Change in Use
    - Abandonment
    - Transfer to disqualified entity (tax-exempt, etc.)

Section 1603 Cash Grant Financing Issues

- Recapture (cont'd)
  - In the event of a grant recapture: no tax lien; unsecured Treasury claim against the project company
  - The Guidance plus the speed of Treasury's payment on early cash grant applications convinced lenders to lend to cash grant projects and to even lend directly against the cash grant…

Section 1603 Cash Grant Financing Issues

- Construction Loan Financing with Cash Grant Bridge
  - 50% Construction Loan
  - Approximately 28% Cash Grant Bridge Loan (95% advance rate x 30% cash grant)
    - 95% advance rate protects for some discrepancy between estimated grant amount and actual grant
  - Remainder of capital cost financed by developer equity

Section 1603 Cash Grant Financing Issues

- Cash Grant Loan Financing Issues
  - Provisions relating to the grant in the loan documents: CPs on verifying the grant amount; covenants relating to timing and content of grant application, no transfers to a disqualified entity and compliance with grant reporting requirements; event of default if any recapture liability
  - Security for the bridge loan
    - Lien on the cash grant proceeds
    - Sponsor guaranty—100% vs. limited
  - Inefficient as to depreciation benefits

Section 1603 Cash Grant Financing Issues

- Cash Grant—What's Next?
  - Grant program may be extended, but may not be in the same form
    - Refundable ITC?
  - Schumer Proposal
  - What would new rules mean for cash grant financing?
    - Does Treasury get a tax lien for recapture of refundable ITC?
    - Rush to complete cash grant deals in 2010?

DOE Loan Guarantee Program Financing Issues

- DOE Loan Guarantee Program authorizes loan guarantees by DOE for specified energy projects that avoid, reduce or sequester air pollutants or GHGs
- 2 Current Paths for Clean Energy Projects
  - Section 1703 Innovative Technology Program
  - Section 1705 “Shovel Ready” Program
    - FIPP (Financial Institution Partnership Program)

DOE Loan Guarantee Program Financing Issues

- Section 1703 Innovative Technology Program Basics
  - New or Significantly Improved Technology
  - Borrower pays credit subsidy cost
  - Guarantee of no more than 80% of Project Cost
  - DOE may guarantee up to 100% of debt, but only if FFB funds the loans
  - Numerous additional requirements apply (reasonable prospect of repayment, NEPA, etc.)
  - July 29, 2009 solicitation for non-commercial projects open

DOE Loan Guarantee Program Financing Issues

- Section 1705 Basics
  - Three types of projects: renewable generation projects; power transmission; leading edge biofuels
  - Must commence construction by Sept 30, 2011
  - Davis-Bacon "prevailing wages"
  - Buy American
  - Create or retain jobs in the U.S.
  - Credit subsidy cost is covered

DOE Loan Guarantee Program Financing Issues

- Section 1705 Basics (cont'd)
  - FFB funding only for non-commercial projects
  - Guarantee of no more than 80% of Project Cost
  - Numerous additional requirements of Section 1703 and final regulations apply (reasonable prospect of repayment, NEPA, etc.)
  - July 29, 2009 solicitation for non-commercial projects and October 7, 2009 FIPP solicitation are open

DOE Loan Guarantee Program Financing Issues

- FIPP Basics
  - October 7, 2009 solicitation created the Financial Institution Partnership Program, only for conventional renewable energy generation projects using commercial technologies
    - Additional FIPP solicitation expected to be issued for commercial renewable manufacturing projects
  - 1705 requirements apply
    - Commence Construction by Sept 30, 2011; Davis-Bacon; Credit Subsidy Cost covered; etc.

DOE Loan Guarantee Program Financing Issues

- FIPP Financing Structuring Issues
  - Lender-Applicant applies
  - Credit Rating
  - “Simple” financing structures
  - No more than 80% of project cost may be guaranteed
  - No more than 80% of loan may be guaranteed

DOE Loan Guarantee Program Financing Issues

- FIPP Financing Structuring Issues (Cont'd)
  - Taking prior two limits together means guaranteed loans support a maximum of 64% of project cost
    - Private market must support 20% of the loan on unguaranteed basis
    - Maximum guaranteed loan amount of 64% of project cost is the maximum DOE is authorized to guaranty; reality is that DOE is more conservative and guarantee will likely cover less
  - Stapling Policy; stripping only in secondary market

DOE Loan Guarantee Program Financing Issues

- FIPP Financing Structuring Issues (Cont'd)
  - Projects with post-construction financing commitments not eligible; projects that have completed construction not eligible
  - Can Tax Equity be Utilized?
  - Treatment of the Cash Grant
  - Collateral Issues

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