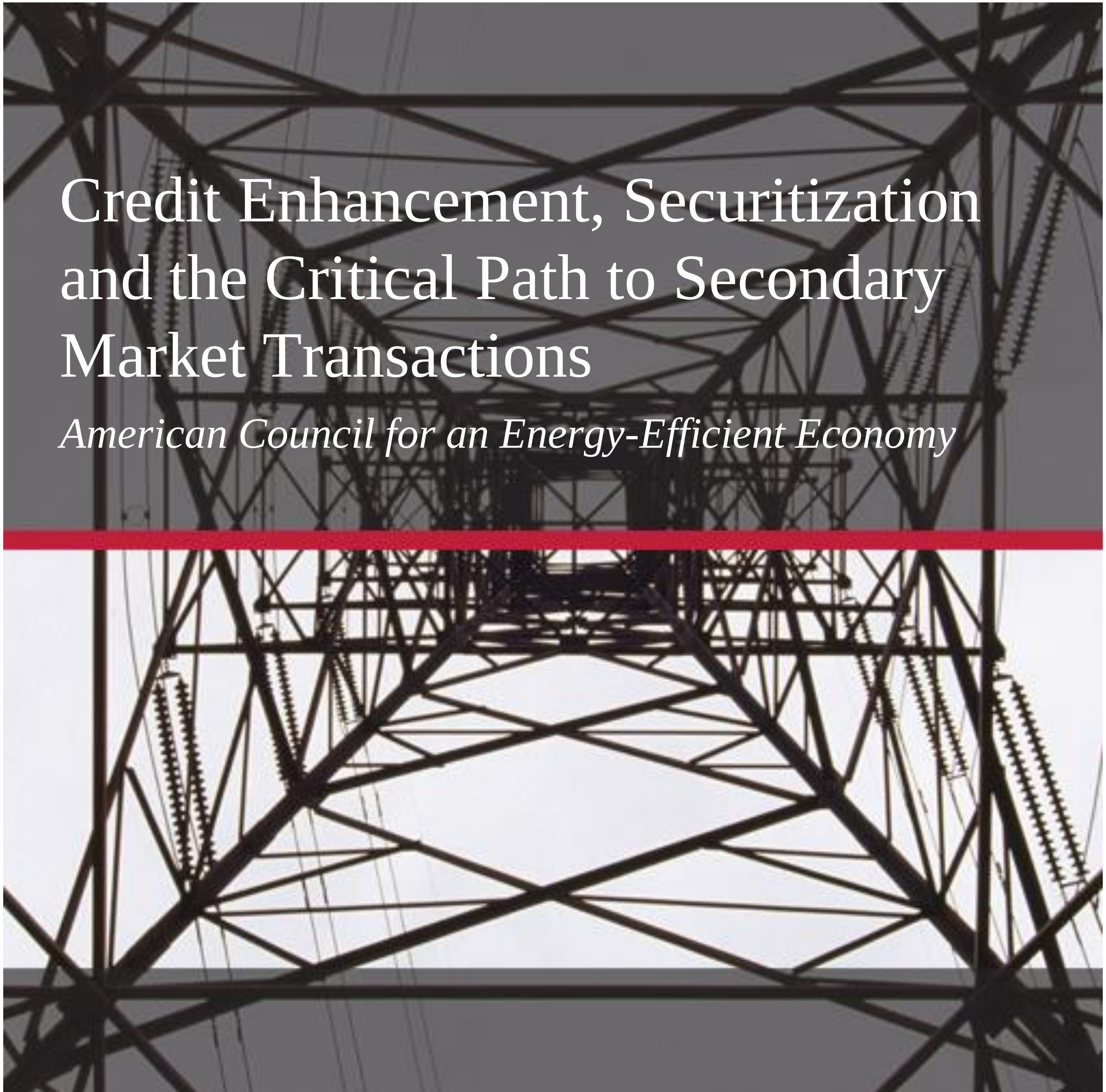

Credit Enhancement, Securitization and the Critical Path to Secondary Market Transactions

American Council for an Energy-Efficient Economy

Insight beyond the rating.

PRESENTED BY

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What is Asset Securitization?

- ***Asset Securitization*** is the pooling or bundling of homogeneous assets with stable and predictable cash flows into secured, marketable securities (bonds or pass-thru certificates) using financial structures that include bankruptcy remote entities.

- Securitizations existed since the mid-1980s and has provided an important source of capital funding for several mainstream industries including housing, auto finance, consumer unsecured lending (i.e. credit cards and student loans) and equipment, as well as some more esoteric sectors like timeshares, shipping containers and insurance premium finance.

What is Asset Securitization?

Benefits of securitization include:

For Issuers:

Lower cost of funds.
- Companies with a no or non-investment grade corporate ratings may issue investment grade bonds generating a lower funding cost.

Improve company leverage and capital ratios.
- Increased leverage can reduce need for additional equity and create a better cost of capital;
- Ability to control leverage by de-risking balance sheet liabilities; and
- A tool for asset/liability management.

Move risk to investors.
- Investors then assume credit risk, interest rate risk, prepayment risk, liquidity risk, early amortization, etc.

Generate a new ongoing source of income from servicing.

Create a large and diverse investor base.

Potential for more favorable accounting treatment through off-balance sheet funding.
- Releases additional capital for corporate expansion or reinvestment purposes.
- Creates an alternative source of capital.

For Investors:

Securitized assets offer.
- An investment product with attractive yields compared with other debt instruments of similar quality.
- An established and liquid secondary market.
- Stable performance and protection via credit enhancement incorporated in the structures.

Structural flexibility with payment streams that can be tailored to meet investors needs.

Alternative products to invest in which can improve overall an investors performance and diversify risk.

Can lower headline risks and spread volatility.

Securitization is Used in Multiple Markets

- Different markets that provide capital to issuers utilize securitization with each having different characteristics. These include:

Lending/Bank Market

- Instruments for investment are typically loans, notes or certificates.
- Both revolving (warehouse for amortizing assets or revolving assets) or amortizing transactions.
- Transaction terms negotiated directly between issuer and the lending institution.
- Utilizes bank balance sheet(s) as source of capital for the transaction.
- Need for a rating varies based on lending institution.

Asset-Backed Commercial Paper Market

- Instruments for investment are typically loans or notes.
- Typically revolving (warehouse for amortizing assets or revolving assets) but can include amortizing transactions.
- Transaction terms negotiated directly between issuer and the lending institution (which uses a bank sponsored asset backed commercial paper (ABCP) conduit).

Term Market

- Instruments for investment typically are notes or certificates Typically amortizing but some revolving transactions for certain assets classes.
- Usually sold to public and 144a-private investors (qualified institutional buyers (QUIBs)), respectively.
  - May be negotiated between the asset owner and the investor directly in private transactions.
  - Securities that are offered most often include ratings.

Transaction Participants

Originator/Seller

- Originator/Seller originates (or buys) the assets, sells or contributes the assets to the issuer.
- Typically is the owner of the transaction's residual interests.

- **Servicer**
- Services the assets.
- Bills underlying obligors.
- Collects payments.
- **Trustees:**
- One or two trustees are required.
- Indenture Trustee represent Noteholders; Owner Trustee represents Certificateholders.
- Make principal and interest distribution to investors.
- Make sure investors get paid out effectively in an event of default.

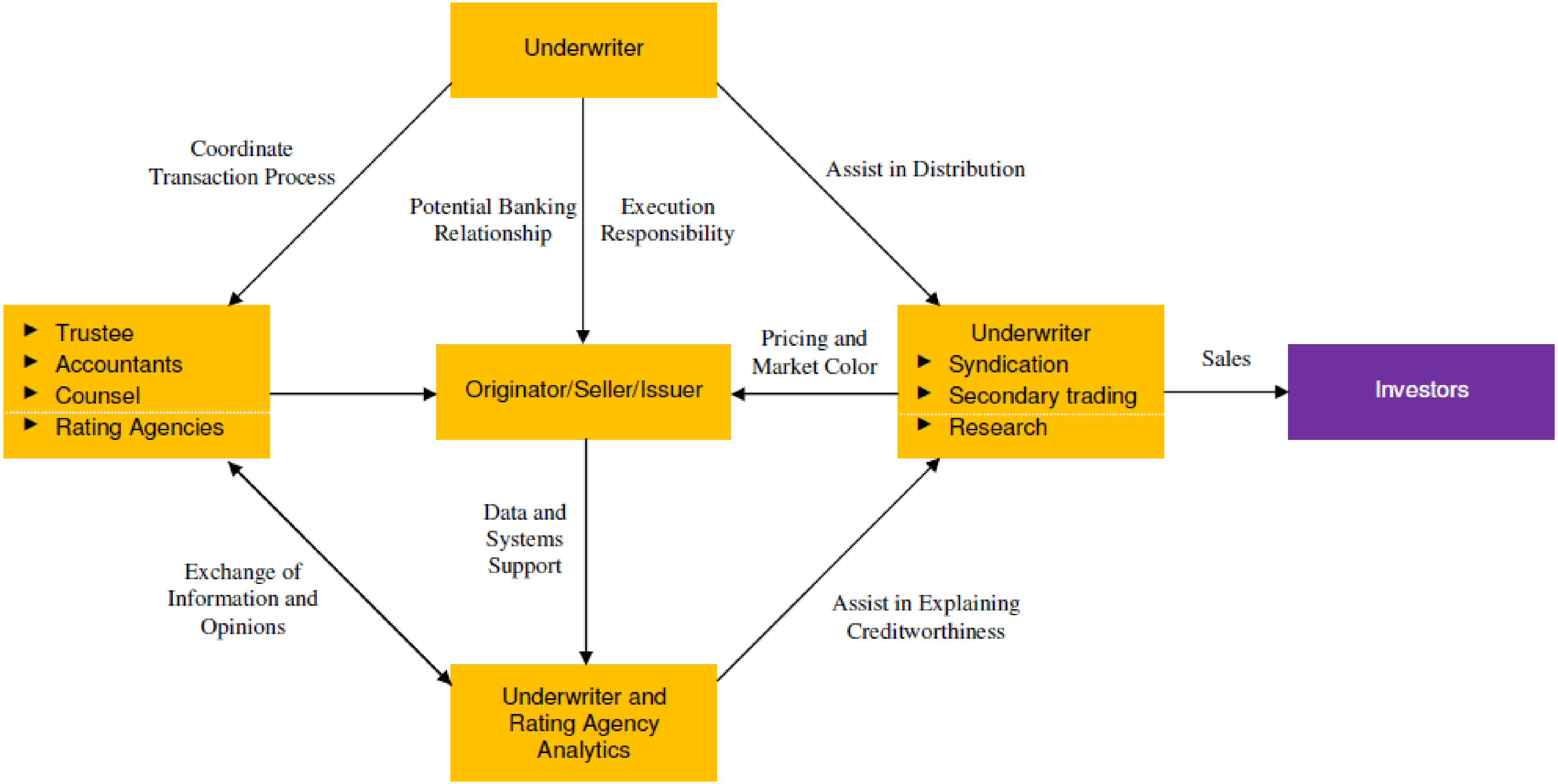
Issuer

- Bankruptcy remote special purpose entity.
- Purchases the assets from the Originator/ Seller, pledges assets to secure the securities issued to investors.
- **Counsel**
- Issuer's counsel is generally primary counsel and drafts key transaction documents.
- Underwriter's counsel normally drafts Underwriter's Agreement and reviews documents and opinions for Underwriters.
- Rating Agencies and Trustees may retain separate counsel.
- **Rating Agencies**
- Give objective opinion on the deal's credit enhancement, capital and legal structure.
- Focus on type of asset, historical and expected collateral performance.

Underwriter

- Responsible for overall transaction execution.
  - Making structural recommendations to the issuer.
  - Coordinating rating agency process.
  - Managing the bond sales and distribution process.
  - Providing pricing recommendations.
  - Provides secondary market liquidity.
  - Perform market coordination between deal team, sales force, and selling syndicate members.
  - Price transaction and coordinate bond allocation to investors.
- **Investors**
  - Investors are securities purchasers such as banks, insurance companies, pension funds, asset managers, etc.

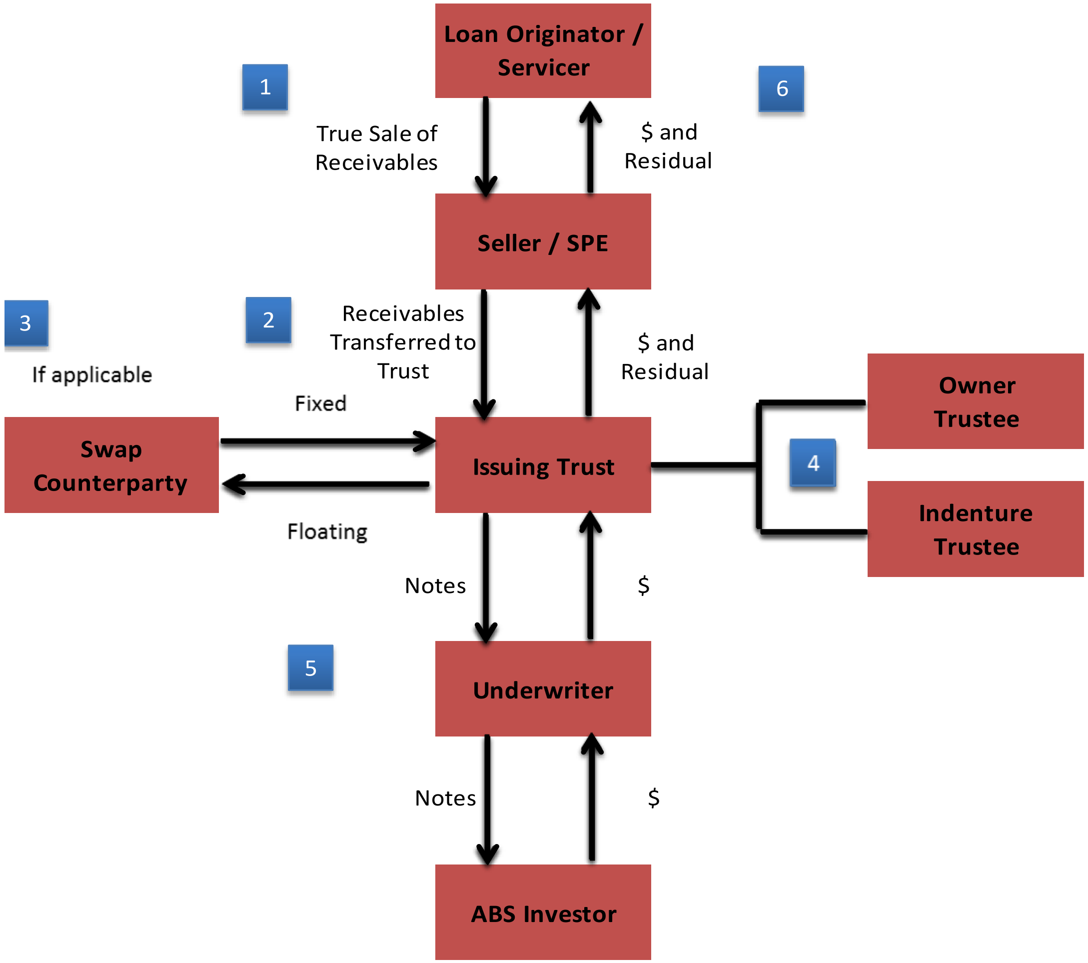
Execution of a Transaction



Transaction Process

Phase	Tasks Group Responsibility	Responsible Group(s)
Phase 1:	Select Underwriter	Originator
	Select other transaction parties	Originator, Underwriter
	Create term sheet	Originator, Underwriter
	Create timeline and responsibilities calendar	Underwriter
	Develop data and collateral stratification	Underwriter
Phase 2:	Distribution of data and deal information	Underwriter, Rating Agencies, Accountants
	Cash flow modeling	Underwriter
	Effectuate rating agency process	Underwriter, Rating Agencies
	Draft offering memorandum and begin documentation	Originator, Underwriter, Rating Agencies
		Originator, Underwriter, Counsel
Phase 3:	Finalize transaction structure	Originators, Underwriters, Counsel
	Finalize offering memorandum	Originator, Underwriters, Counsel Accountants, Trustee, Rating Agencies
	Receive rating agency committee feedback	Underwriter, Rating Agencies
	Coordinate underwriting syndicate	Underwriter
	Deliver of marketing materials	Underwriter
	Investor education	Underwriter, Rating Agencies
Phase 4:	Finalize price talk range	Underwriter
	Launch transaction	Originator, Underwriter
	Price transaction	Underwriter
Phase 5:	Finalize documentation and opinions	Originator, Counsel
	Prospectus deliveries	Counsel, Underwriters
	Close transaction	All Parties

Typical Transaction Structure (2 Step)



1. Originator sells receivables to the Seller via "True Sale". The seller is a wholly owned subsidiary of the originator.
2. Seller forms a special purpose entity legal trust (SPE) and transfers the receivables to the trust.
3. Third party derivative counterparty provides interest rate swap(s) or an interest rate cap(s) to the trust, if applicable.
4. A third party entity, usually a bank, provides management services to the issuer trust pursuant to a Trust Indenture. Trustee(s) ensures cash is allocated and assets are managed appropriately, protecting the interest of the investors.
5. The trust issues bonds in the form of Notes and/or Certificates to ABS Investors via underwriter and market maker.
6. The Servicer is hired by the Trust to perform all tasks related to collections, asset disposition and note reporting, and is paid a fee from Trust cashflows.

Credit Enhancement

- A vital structural element of each transaction is the level of credit enhancement which allows the credit rating of the Rated Securities to exceed that of an Originator by building cushion into a deal to absorb losses on collateral from non-payment of contractual obligations of the borrower.
- ABS transactions typically have a combination of several types of protection against loss known as credit enhancement, these may include:

Credit Enhancement Type	Description
Excess Spread:	First element of credit enhancement to be utilized when losses occur in a given period; it represents the amount of interest available after payment of the trustee fees, servicing fee, bond interest and other senior transaction expenses. Excess spread can be used to build other forms of enhancement (e.g. reserve accounts), if necessary, as well as reimburse parties for reimbursable advances.
Reserve Account:	Account created at the inception of a transaction that will utilize cash reserves on deposit to pay defined transaction expense (often interest). The cash reserves may be fully or partially funded up-front. If not funded up front excess spread retention over time would complete the full cash-reserve funding requirement.
Overcollateralization:	A form of credit enhancement where the collateral in the trust exceeds the bond liabilities. Overcollateralization can be structured to build over time or be initially required depending on the desired ratings.
Subordination:	Transaction structured with senior and subordinate classes. Subordinate classes absorb losses before senior bonds and thus provide addition protection. Consequently, they are offered with lower ratings act as protection from losses for senior classes with higher ratings.
Letters of Credit and Liquidity Facilities:	Agreement between a provider, usually a bank, and a beneficiary, in this context the SPE. Under the terms of the contract, in defined circumstances, the provider will forward funds directly to the beneficiary in satisfaction of obligations of a third party. Letters of credit can be attractive as a type of credit enhancement because they can form contractual obligations between the beneficiary and the provider, independent of the conduct or status of the third party.
Swap Agreements:	Swap agreements, or swaps, are often part of a structured finance transaction. Swaps are used to tailor the SPE's cash flows to better match those of the Rated Securities. For instance, the Rated Securities may offer a fixed-coupon payment, while the consumer loans that comprise the assets are floating-rate loans.

Rating Agency Process – Aspects Considered

- Rating agencies will consider all elements of a transaction when assigning a rating including the parties to the transaction and the structure presented to them. Rating agencies are regulatory prohibited from structuring a transaction and hence are primarily in a responsive position.
- The transaction components assessed for each securitization include:
  - Type of assets included in the transaction.
    - Nature and consistency of the cash flows.
  - The source of the assets included in the transaction.
    - Originated by the sponsoring company or purchased from other originators.
  - The capabilities of the sponsoring company.
    - Originations process for the assets (if applicable).
    - Ongoing support of the assets – servicing/collections (if applicable).
  - Quality and capabilities of the transaction parties.
  - Quality and expected performance of the assets included in the transaction.
  - Cash flow structure.
    - Payment mechanics.
    - Capital structure.
  - Transaction legal structure.
  - Documentation of the transaction.

Rating Agency Process – Aspects Considered
(Continued)

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- Rating agencies consider both quantitative and qualitative aspects of the transaction determine the proposed level of credit support for a transaction is commensurate with a given rating level.

Quantitative Factors	
Static Pool Performance:	• Taking a discrete pool of monthly or quarterly originations and tracking the pool's performance on a monthly basis • Useful to be able to analyze static pool data by credit score, contract term, and new versus used vehicles
Portfolio Data:	• Issuer typically need 3-5 years of portfolio history • Origination volume • Delinquencies • Repossessions • Gross and net losses • Recoveries • Prepayment speeds • Proxy data may be used from comparable issuers
Pool Selection and Stratification:	• When selecting the pool for the transaction, the issuer must provide a collateral tape detailing each of the receivables characteristics
Delinquency and Charge-Off Policy:	• Means and methods of dealing with current charge-offs and delinquencies

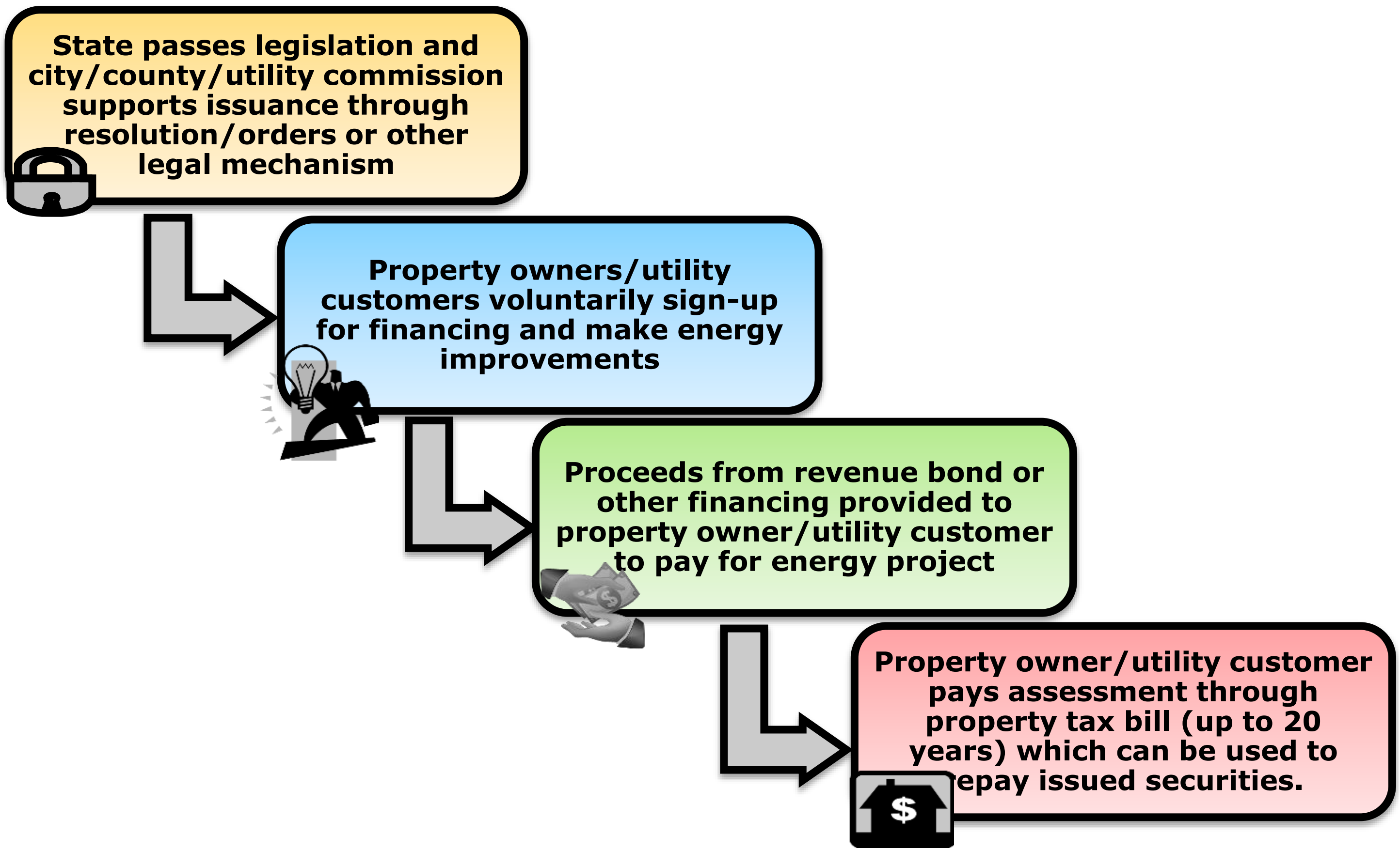
Rating Agency Process – Aspects Considered

(Continued)

Qualitative Factors	
Company History:	• Typically need to show history across the longer of at least one business cycle and/or the life of the assets. • Changes to U/W standards, charge-off policies, and servicing procedures will be evaluated to determine whether historical data can be used to predict future performance
Experience of Management	• Several years in the industry are typical.
Firm Goals and Competitive Strategy:	• Company business plan and how that provides competitive advantages.
Company's Financial Resources:	• Important for company to have other financing solutions other than securitizations.
Dealer/Third Party Relationships:	• No high dealer concentrations; Fraud protection. • New vs. Used; Ability to track performance .
Underwriting:	• Important that the company has consistent underwriting standards or is able to explain changes to its underwriting proceeds. • Underwriting factors include: • Credit bureau history •Debt to income • Time in job/residence/business •Approval risks • Funding rates •Low-side and high side overrides • Buyer programs •Credit scores
Collateral Terms:	Collateral terms will influence the collateral default frequency and severity: • Advance rate •Collateral condition • Contract term •Down payment requirement
Servicing Terms:	• Lower quality credit pools usually place greater emphasis on the servicing platform: • Account to collector ratios •Collateral disposal techniques • Borrower payment methods •Computer systems • Vehicle repossession speed

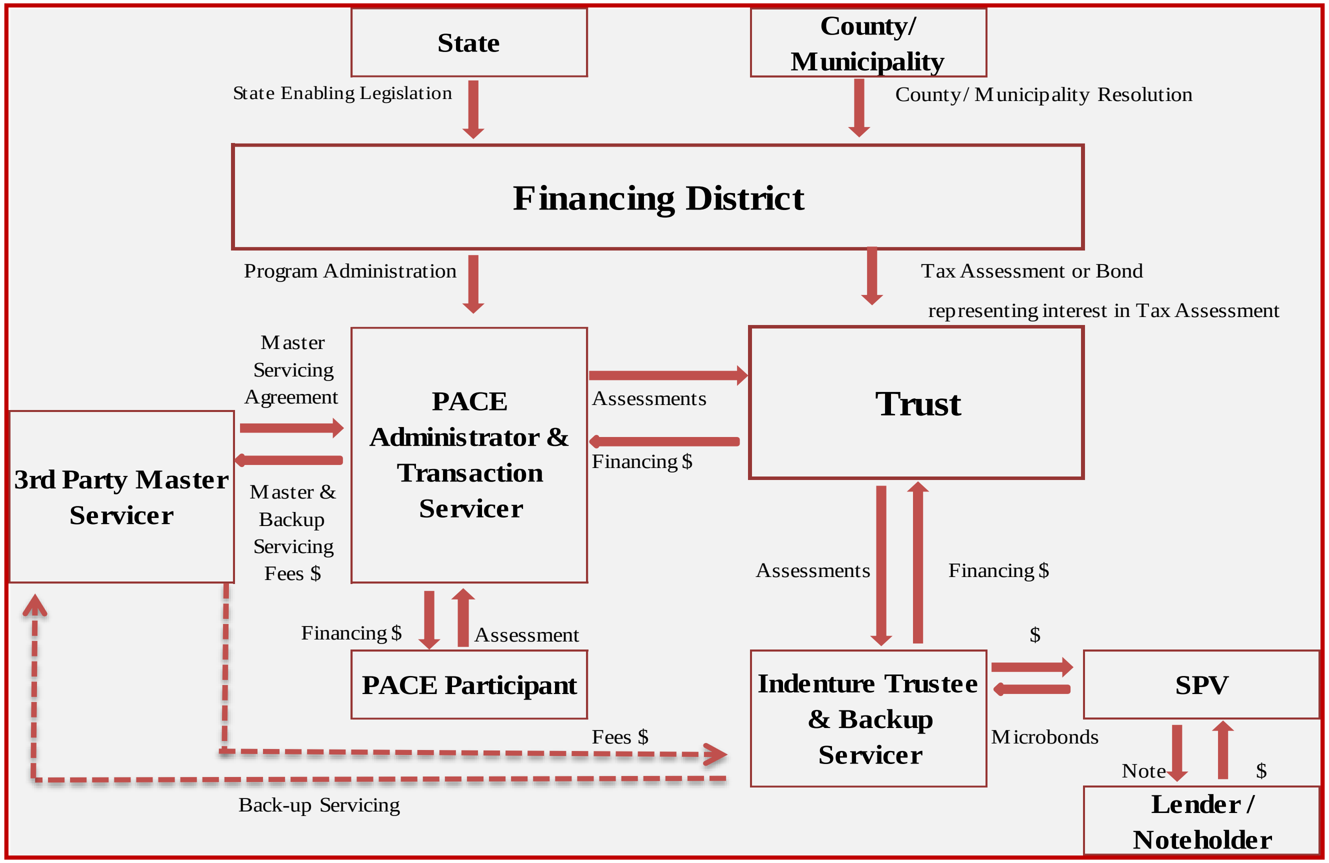
Government Facilitated Programs (GFP)

- Property Assessed Clean Energy (PACE).
- On-Bill Repayment.



GFP – Property Assessed Clean Energy (PACE)

PACE programs will permit the issuance of bonds to finance the funding of PACE participant improvements, as previously shown. A PACE assessment transaction structure may be as follows:



PACE: HERO Funding Class A Notes, Series 2014-1

Transaction Parties and Key Considerations

Transaction Parties:

Class A Notes

- Issuer: HERO Funding Trust 2014-1
- Transferor: 400 PACE Phase One LLC
- Trust / Portfolio Administrator: 400 Capital Administrator LLC
- Depositor: 400 PACE Depositor LLC
- ABS Note Trustee: Deutsche Bank Trust Comp. Americas
- Structuring Agent / Book Runner: Deutsche Bank Securities Inc.

PACE Bond Portfolio

- PACE Bond Issuer: Western Riverside Council of Gov'ts
- Assessment Administrator: David Taussig & Associates, Inc.
- Program Administrator: Renovate America, Inc.
- County: County of Riverside, California
- PACE Bond Trustee: Deutche Bank National Trust Comp.

Key Considerations:

- Credit enhancement, overcollateralization and liquidity reserve;
- County and third party operations; management capabilities;
- Characteristics of PACE assessments;
- Payment expectations for the assessments; and
- Legal and transaction structure.

PACE: HERO Funding Class A Notes, Series 2014-1

Structural Elements and Collateral Characteristics

Key Structural Elements include:

- Advance rate of 97%
- Reserve Account of 3% initially, building to 7%
- Triggers:
  - County below investment grade starts trap

Collateral Characteristics

Number of Assessments	5,890
Avg Assessment Value	$18, 273
Assessment Value Range	$641.47-$112,010.65
Avg Annual Payment	$2,175
Annual Payment Range	$81.56-$17,204.38
WA Assessment LTV	7.60%
Assessment LTV Range	0.25%-14.90%
WA Mortgage LTV	66.54%
Mortgage LTV Range	0.00%-90.03%
WA Combined LTV	74.14%
Combined LTV Range	0.47%-100.22%

Eligibility Criteria:

- Property owners must be the property owner of record;
- Property owners must be current on all property taxes, and property debt at the time of funding; cannot have had more than 1 30-day mortgage late payment over past 12 months;
- Property must not have any liens other than lender debt or liens recorded by other property tax financing districts;
- Property owners have not declared bankruptcy in past 7 years and the property is not currently an asset in a bankruptcy proceeding;
- Mortgage-related debt on the property must not exceed 90% of property’s market value;
- Proposed improvements must not exceed 15% of property’s market value;
- Combined mortgage debt & amount of PACE assessment must not exceed 100% of property’s market value;
- Total annual property tax & assessments will not exceed 5% of property’s market value.

PACE: Path for Expansion

- ***Credit Risk*** – Understanding the unique aspects of the underlying asset and how this may affect behavior and performance.
  - When evaluating, one should consider:
    - Has the historical tax collection data been recorded in a manner that allows for the default, recovery and recovery timeline to be tracked through time;
    - Does significant basis risk exist between the tax collection data and pool of PACE obligations;
    - How should historical tax collection data be adjusted to account for PACE-specific attributes like recidivism (i.e., that a property could default more than one time over the life of a transaction);
    - Does historical data include or contemplate abandonment of property;
    - What is the appropriate way to amplify base case assumptions to align transaction risk with established credit risk scales.
  - Tax collection date may lack detail but alternate measurement may be erected/available.

PACE: Path for Expansion

- ***Counterparty Risk*** – Municipal involvement can affect performance expectations, and linkages to the municipality may exist.
  - Lack of specific identification can create commingling concerns.
  - Risk related to an automatic stay following a municipal bankruptcy that could result in a temporary delay in the ability to access PACE payments.
  - Risk of permanent loss of such cash flows before redirection of PACE away from the municipality bankruptcy estate.
  - Risk of permanent loss of the PACE obligation cash flows if they are not redirected following a bankruptcy of the municipality and instead are used for satisfaction of general debts of the municipality (It's important to note that these items listed above are not mutually exclusive).

- ***Headline Risk*** – How PACE obligations affect subordinate interest holders (i.e. mortgages/guarantors) and concerns voiced by the FHFA.
  - New PACE Loss Reserve Program providing $10mm in California for PACE related losses incurred by Fannie, Freddie or first mortgage lenders.
  - Priority of PACE lien has not been directly challenged.
  - Greatest concern is the calling of a default and acceleration related to the existence of a PACE obligation on an otherwise performing obligor.

SolarCity LMC Series I, LLC
Transaction Parties and Key Considerations

Transaction Parties:

Series 2013-1

Issuer:
SolarCity LMC Series I LLC

Depositor:
SolarCity Series Holdings I LLC

Originator and Manager:
SolarCity Corp.

Transition Manager/Indenture Trustee:
U.S. Bank N.A.

Sole Bookrunner/Structuring Agent:
Credit Suisse Securities (USA) LLC

Key Considerations:

- Credit enhancement available in the form of overcollateralization;
- Manager’s operational and management abilities;
- Customer base’s initial credit quality;
- Projected cash flows supporting the notes; and
- The transaction’s legal structure.

SolarCity LMC Series I, LLC
Structural Elements and Collateral Characteristics

Key Structural Elements include:

- Advance Rate of 62%.
- Interest Reserve of 6 months of note interest.
- Inverter replacement reserve account.
- Asset age of 2 years.
- Triggers:
  - Early amortization and debt service coverage ratio sweep.

Collateral Characteristics

No. of PV systems	5,033	Range of Customer Agreement Seasoning	1-63 mths
ADSAB*	$87.8 mn	WA Price per kWh	$0.15
WA Customer Agreement Initial Term	223 mths	WA Customer Agreement Price per kWh fee escalator	2.07%
Customer Agreement Initial Terms Range	120-240 mths	% of ADSAB* Related to Residential Customers	71%
WA Customer Agreement Remaining Term	201 mths	WA FICO Score	762
Customer Agreement Remaining Terms Range	78-238 mths	% of ADSAB related to non-residential customers	29%
WA Customer Agreement Seasoning	22 mths	*ADSAB-Aggregated discounted solar asset balance	

SolarCity LMC Series I, LLC
Challenges Confronted

- ***Limited History*** – Asset and customer performance history is limited.
- ***Legislation Risk*** – Potential legislative pressure may continue to bring uncertainty to the economic and cost savings associated with solar assets.
- ***Competition*** – Company operates in a highly competitive industry with traditional utilities and other solar developers.
- ***Varying Cash Flow and Expenses*** – Solar energy production can be unpredictable, resulting in variability in cash flows.
  - Variability in costs and expenses associated with managing the portfolio may be hard to predict over time.
- ***Panel Quality*** – Solar panel quality may vary across different manufacturers.
- ***Competition within Sector*** – Alternative sources of renewable energy may affect the popularity and competitiveness of solar assets.
- ***Geographic Concentrations*** – The top 3 states (CA, AZ and CO) account for 90% of the portfolio.
- ***Renegotiation and System Failures*** – Renegotiating customer agreements before the contract term ends may reduce cash flows to the transaction; as well as solar system failures may hurt cash collection from customers.

General Challenges for Consideration

Challenges in this sector include:

- ***Obligor Default*** – Obligor default on the underlying agreements and risk to future cash flows resulting from a temporary suspension in the obligor's requirement to pay; reassignment after default.

- **Operations and Maintenance (O&M)** – The operator's capacity to continue running the DG projects/provide service for the tenor of the underlying PPA/lease, as well as the level of ongoing costs to maintain the systems, transferability of O&M and back-up servicing.

- **Property Access** – Availability of the agreement between the property owner and the DG project owner, ensuring the preservation of the rights of the operator to have usage of the underlying property for the term of a securitization.

- **Technology and Equipment Performance** – The technology obsolescence risk, which may cause downtime for the system and make the system less economical for users.

General Challenges for Consideration

(Continued)

- **Contracts – PPAs and Leases** – The legal aspects of the agreements which may impact future cash flows include:
  - Releases from Obligations/Rejection - The potential that an obligor may terminate or reject the contract.
  - Payment Variability - Depending on the type of contract, there may be embedded metrics to measure production and performance of the DG projects as well as price escalators.
- **Balance of Investor Rights** - The balance in a structure between the rights of the tax equity holders and the debtholders, in line with the capital priority of the investment.

Questions?

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