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and Staffing



Know-How



Results

Overview of Project Finance for Utility-Scale Renewable Energy Projects

This webcast will begin promptly at 12:00 PM Eastern

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Agenda

1. Growth for Renewables
2. Project Finance
3. Sources and Uses
4. Project Agreements
5. Tax Equity Financing
6. Incentives



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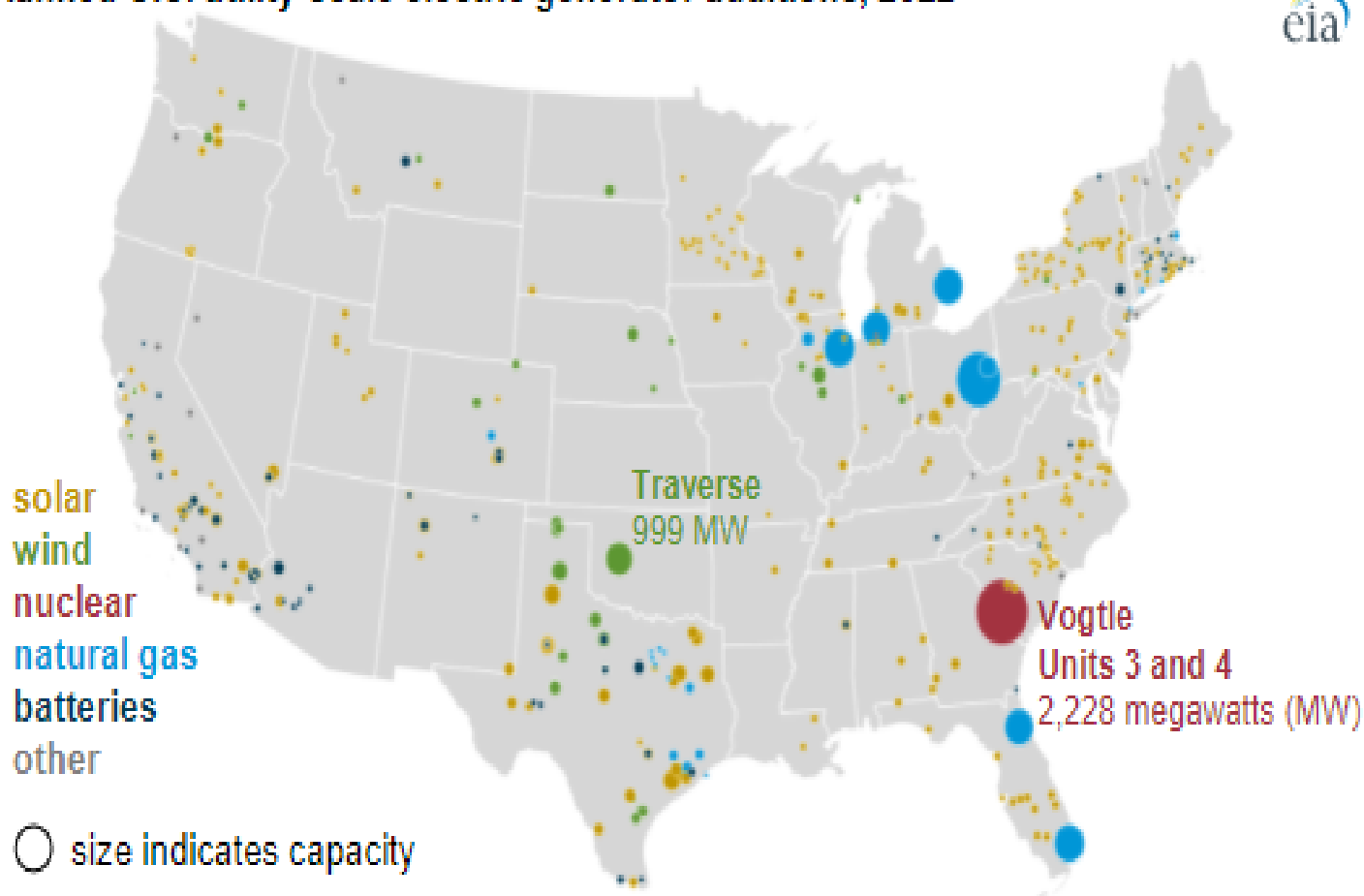


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Planned U.S. utility-scale electric generator additions, 2022



Source: U.S. Energy Information Administration, *Preliminary Monthly Electric Generator Inventory*, October 2021

Increased Adoption of Renewables



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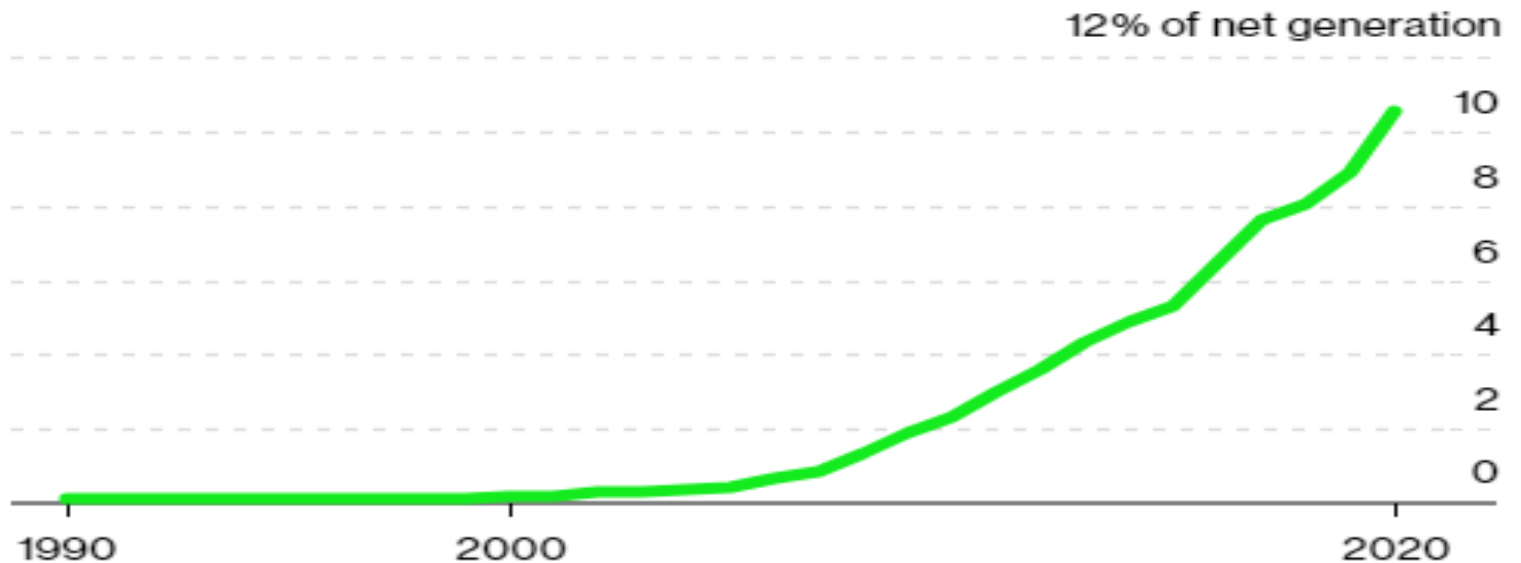
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U.S. wind and solar power generation as a percentage of total

Wind and solar as % of total



Source: U.S. Energy Information Administration



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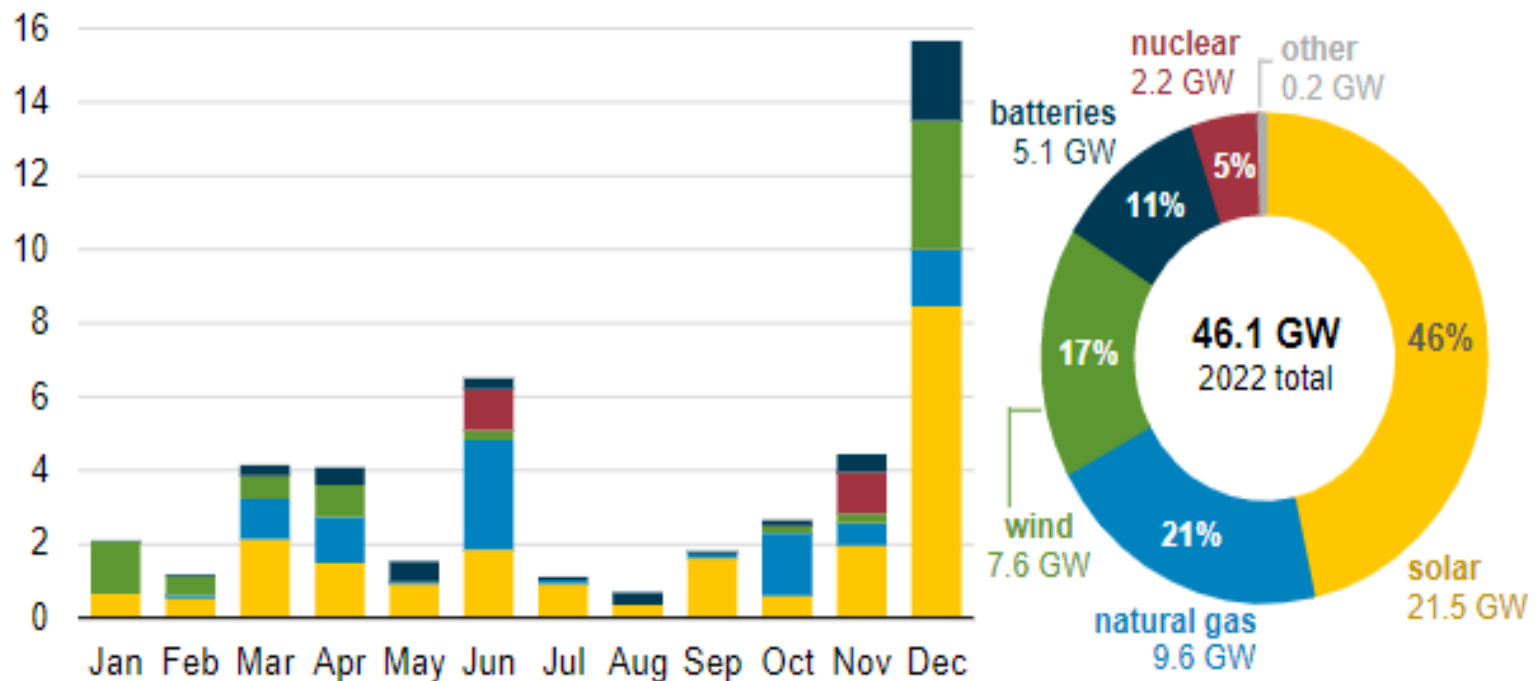
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Solar power will account for nearly half of new U.S. electric generating capacity in 2022

Planned U.S. utility-scale electric generating capacity additions (2022)
gigawatts (GW)



Source: U.S. Energy Information Administration, *Preliminary Monthly Electric Generator Inventory*, October 2021

Solar at 20% by 2050?



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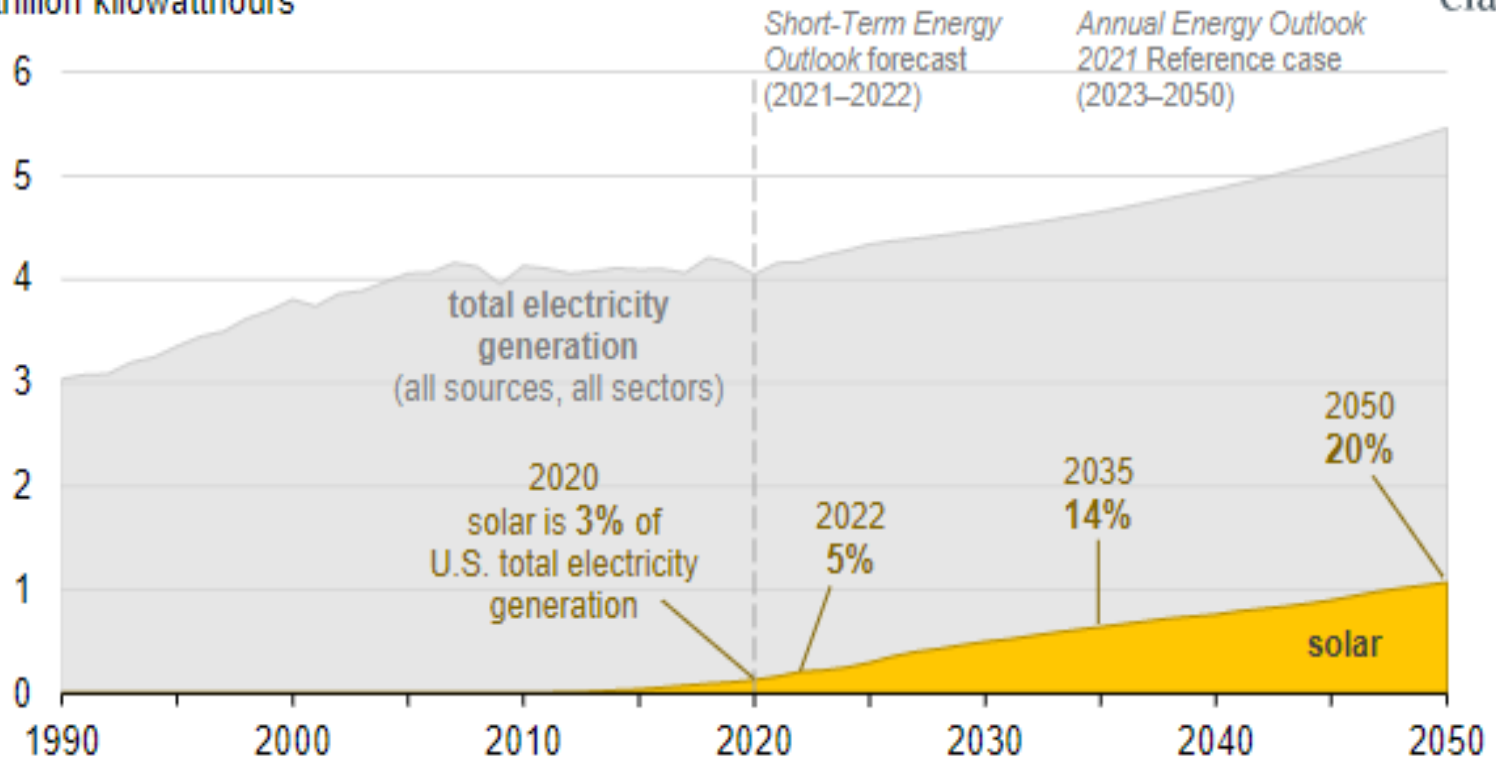


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Annual U.S. electricity net generation from all sectors (1990–2050)
trillion kilowatthours



Source: U.S. Energy Information Administration, *Monthly Energy Review*, *Electric Power Annual*, *Short-Term Energy Outlook*, and *Annual Energy Outlook*



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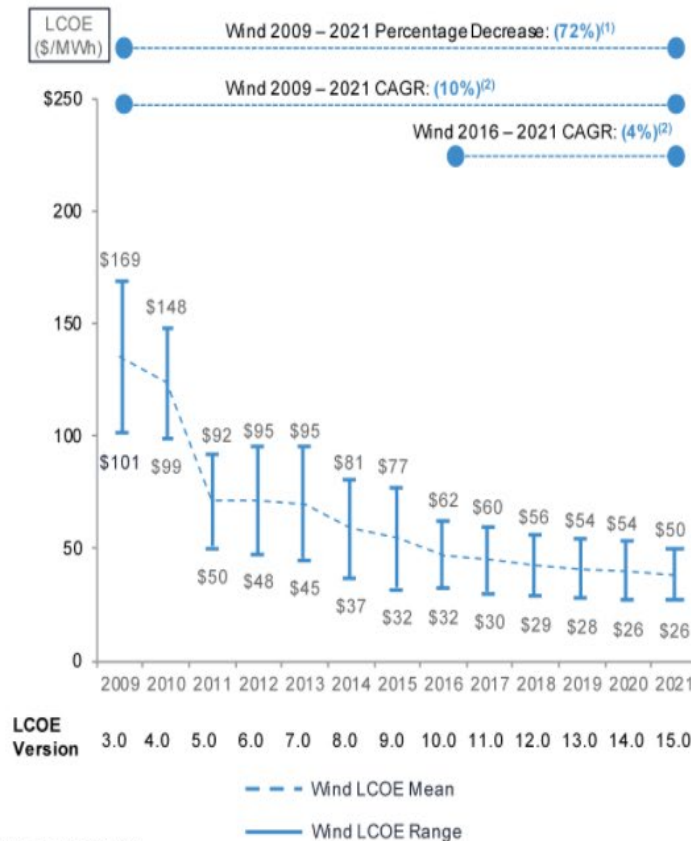


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Levelized Cost of Energy Comparison—Historical Renewable Energy LCOE Declines

In light of material declines in the pricing of system components and improvements in efficiency, among other factors, wind and utility-scale solar PV have exhibited dramatic LCOE declines; however, as these industries have matured, the rates of decline have diminished

Unsubsidized Wind LCOE

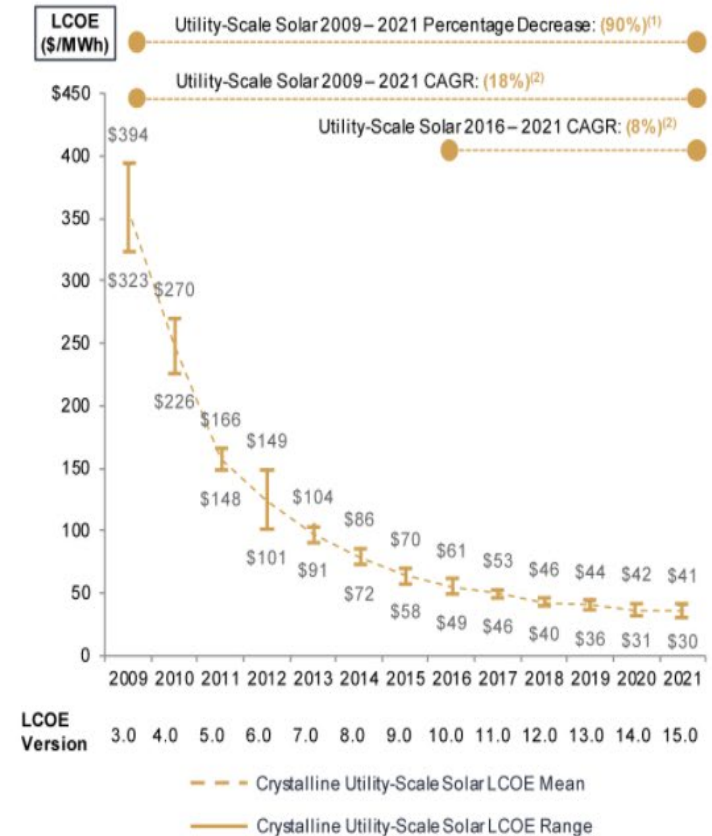


Source: Lazard estimates.

(1) Represents the average percentage decrease of the high end and low end of the LCOE range.

(2) Represents the average compounded annual rate of decline of the high end and low end of the LCOE range.

Unsubsidized Solar PV LCOE



BUSINESS ESSENTIALS

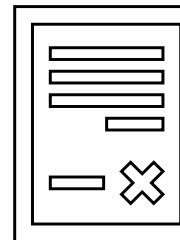
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Financing Renewables (Pillars)



Project Finance
Equity Raise

Power Purchase
Agreements



Tax Credits



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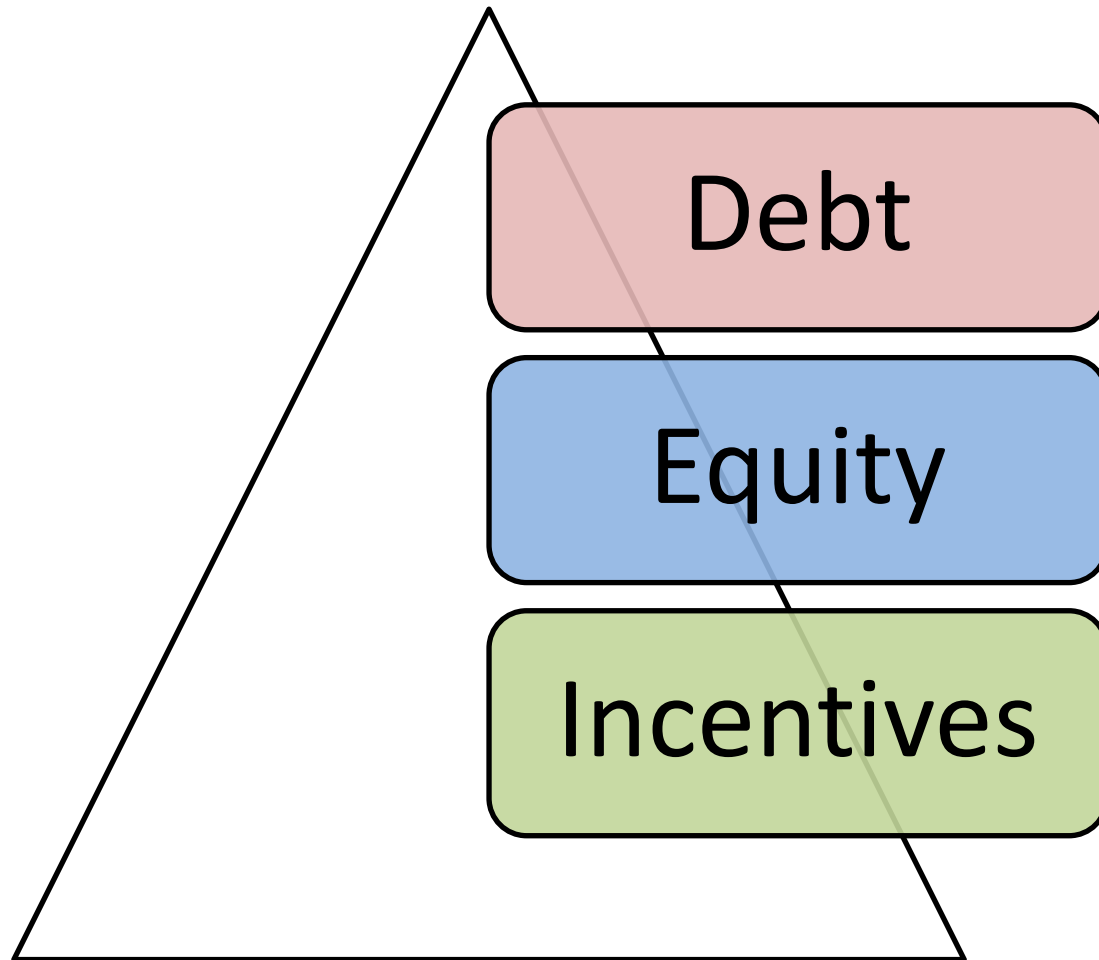


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Renewable Project Capital Sources & Deal Structure



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Project Finance

- Loan based solely on specific risks and future cash flow for the project
- Non-Recourse // Limited Recourse
 - SPV “Project Company” formed
 - Sponsor willing to risk the project
 - Enforceable contract rights against credit worthy party
 - Sufficient physical assets
- Loan Amount: \$50M / \$100M



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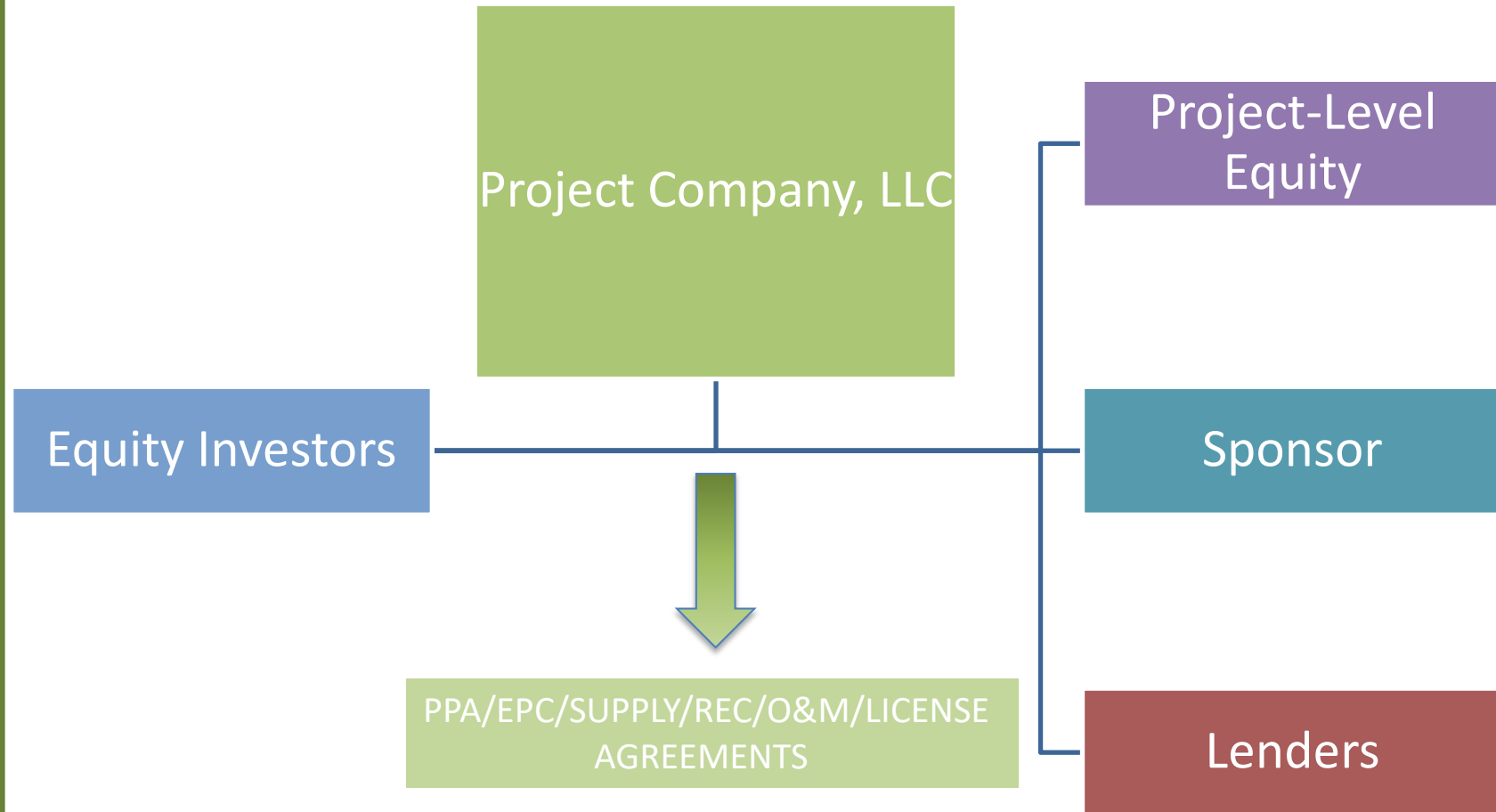


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Project Finance Structure



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Equity

SPONSORS/INVESTORS	TERMS
<ul style="list-style-type: none">• Venture Capital• Private Equity• Management Team	<ul style="list-style-type: none">• Entity to receive investment funds• Amount• Milestone investments• Common Stock or Preferred• Management oversight• Dividend rights• Anti-dilution rights• Liquidation preference• Protective provisions



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Debt

Commercial Banks

Private Placement

Syndicate
Lenders

144A
(Project
Bond)



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Loan Types

(Dependent on Development Stage)

CONSTRUCTION LOAN

- Higher Interest rate than term
- Frequent drawdowns
- Converts to Term—upon “Substantial [or] Final Completion” of EPC Agreement

TERM LOAN

- Lower Interest rate than Construction loans
- Limited commitment/drawdown period
- Scheduled repayment dates/Amortization schedules

WORKING CAPITAL/LETTER OF CREDIT

- Smaller size than construction or term loans (usually 80% of value of inventory or cash)
- Usually revolving
- LOCs made on company’s behalf under Project Agreements



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LOAN – Fees & Collateral

Lending Fees (based on loan commitment)

- Arrangement - 2% to 6%
- Syndication - 1%
- \$75,000 annual agency fee
- Facility fee to each syndicate lender of 1.5%/lender commitment
- Transaction costs and expenses

Collateral

- Basis for repayment on default
- All assets owned by Project Company
 - Accounts Receivable
 - Real Property
 - Intellectual Property
 - Contract Rights
- Equity in the Company
- Guarantees

Waterfall Distribution

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Project Revenue Account

Construction/Operating

Loan
Fees/Expenses/Interest/Principal

Debt Payment Account

Cash Sweep

Reserve Accounts

Subordinated Debt

Distribution

Project Construction/Operating Expenses

Fees, Interest and Principal (scheduled)

Segregated for paying future debt service--
Reserve Level Required

Lenders repaid outstanding principal/
percentage of excess cash remaining after
above 3 levels made

Major maintenance—Reserve Level Required

Other Debt -- if Applicable

To equity holders, conditioned on no default
and applicable conditions



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Project Agreements



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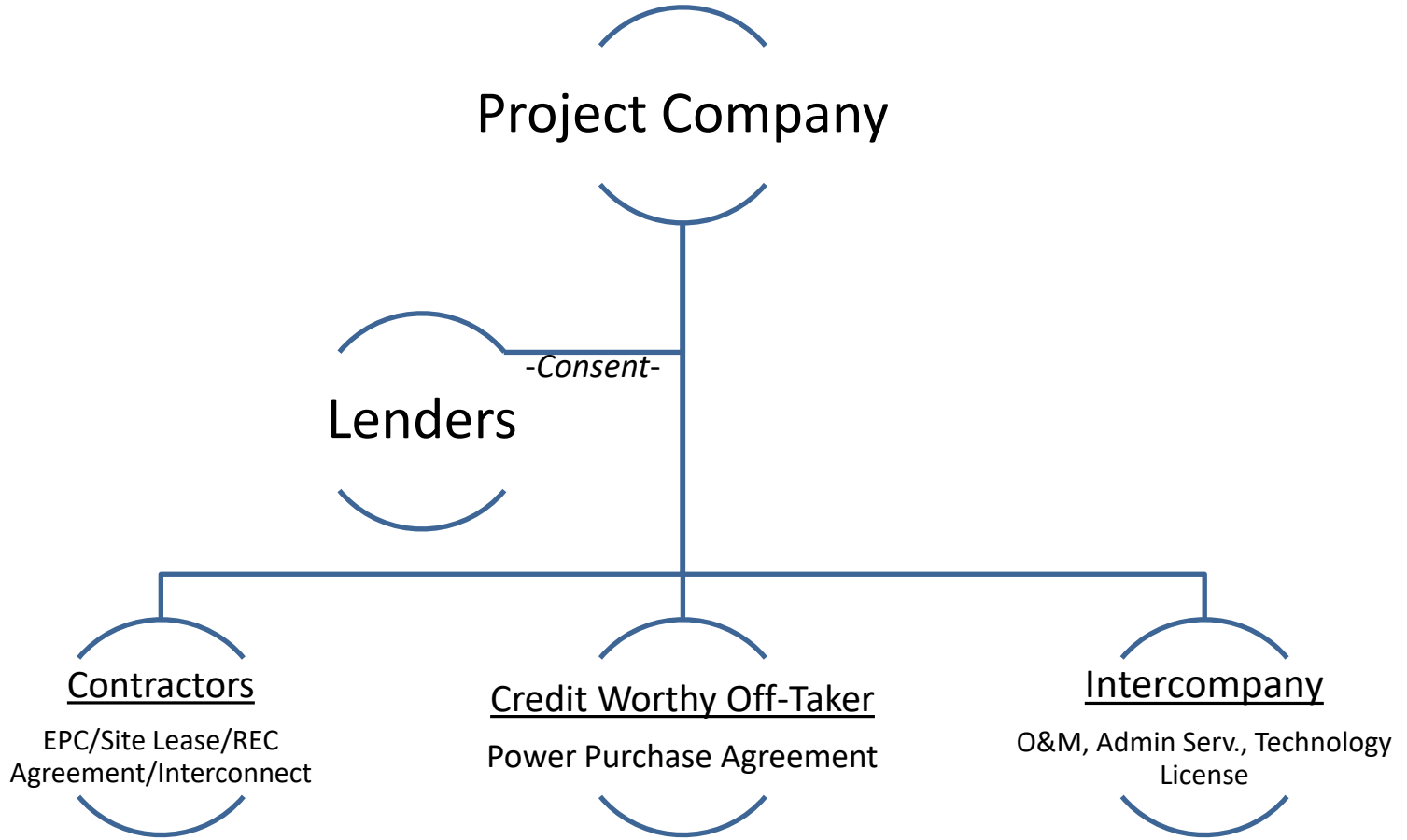
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Power Purchase Agreement



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Distributed—Private

- Often customer owns the site, but not the power generation equipment
- Only in jurisdictions where private electricity sales allowed/Net Metering with utility advantageous
- Sale price is lower than utility retail rate, with price escalator during contract term
- Interconnect to Utility

Utility—Public

- Make available agreed level of Capacity and deliver generated Energy
- Pricing: (1) Capacity Charge--revenue floor &
(2) Output Charge—volumes delivered
- Option for Third Party Sales

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Tax Credits

Federal

- Production & Investment Tax Credits
- Depreciation

State

- Economic development/ investments

Renewable Portfolio Standards

Renewable energy credits

Alternative compliance payments

Utility Programs

Procurement requirements

Feed-in tariffs

Tax Equity Financing



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Key financing source for renewable projects

Monetizes tax benefits

Limited

Only for owner (or the lessee)

Non-transferable

Only usable as tax offset

Sources

Production Tax Credit

Investment Tax Credit

Depreciation



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Production Tax Credit

- IRC § 45
 - Performance based - 2.5 cents/kWh on the sale of electricity produced, inflation adjusted
 - Eligibility requirement was changed in 2013 from a placed in-service date to a start of construction date
 - 100% if start construction before Jan 1, 2017
 - 80% if start construction before Jan 1, 2018
 - 60% if start construction before Jan 1, 2019
 - 40% if start construction before Jan 1, 2020
 - 60% if start construction between Jan 1, 2020 and Dec 31, 2021
 - No PTC for projects that start construction after Jan 1, 2022

Investment Tax Credit



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- IRC § 48
 - Typically, solar
 - Eligibility based on a “commence construction” standard
 - dollar-for-dollar reduction in the income taxes
 - based on the amount of investment

ITC – Step Down

Commencement and Service Date	Amount of Solar ITC
Projects commencing construction between Jan 1, 2006, and Dec 31, 2019, but placed in service before 2026*	30%
Projects commencing construction between Jan 1, 2020, and Dec 31, 2022, but placed in service before 2026**	26%
Projects commencing construction between Jan 1, 2023, and Dec 31, 2023, but placed in service before 2026	22%
Projects commencing construction after Dec 31, 2023, or placed in service after Dec 31, 2025	10%



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Two Methods to Establish Beginning of Construction



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1. Five Percent Safe Harbor:

- At least 5% of total cost of the facility is paid or incurred
- Expenses must be “integral” to generating electricity
- equipment and services must be delivered

2. Physical Work Test:

- “Physical work of significant nature” begins on the project site or on project equipment
- must be “integral” to the project
- Facts and circumstances, scrutiny

Placed in Service



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- Asset must be “placed in a condition or state of readiness for a specifically designed function”
- Consider receipt of permits, commencement of regular operations, interconnection to grid
 - Fact specific

Depreciation

- Accelerated Depreciation
 - Allocates decline in value over life of asset for accounting purposes
 - Depreciate using 5-year MACRS despite 30-year system life
 - Creates tax losses to shield income for investors
- Bonus Depreciation



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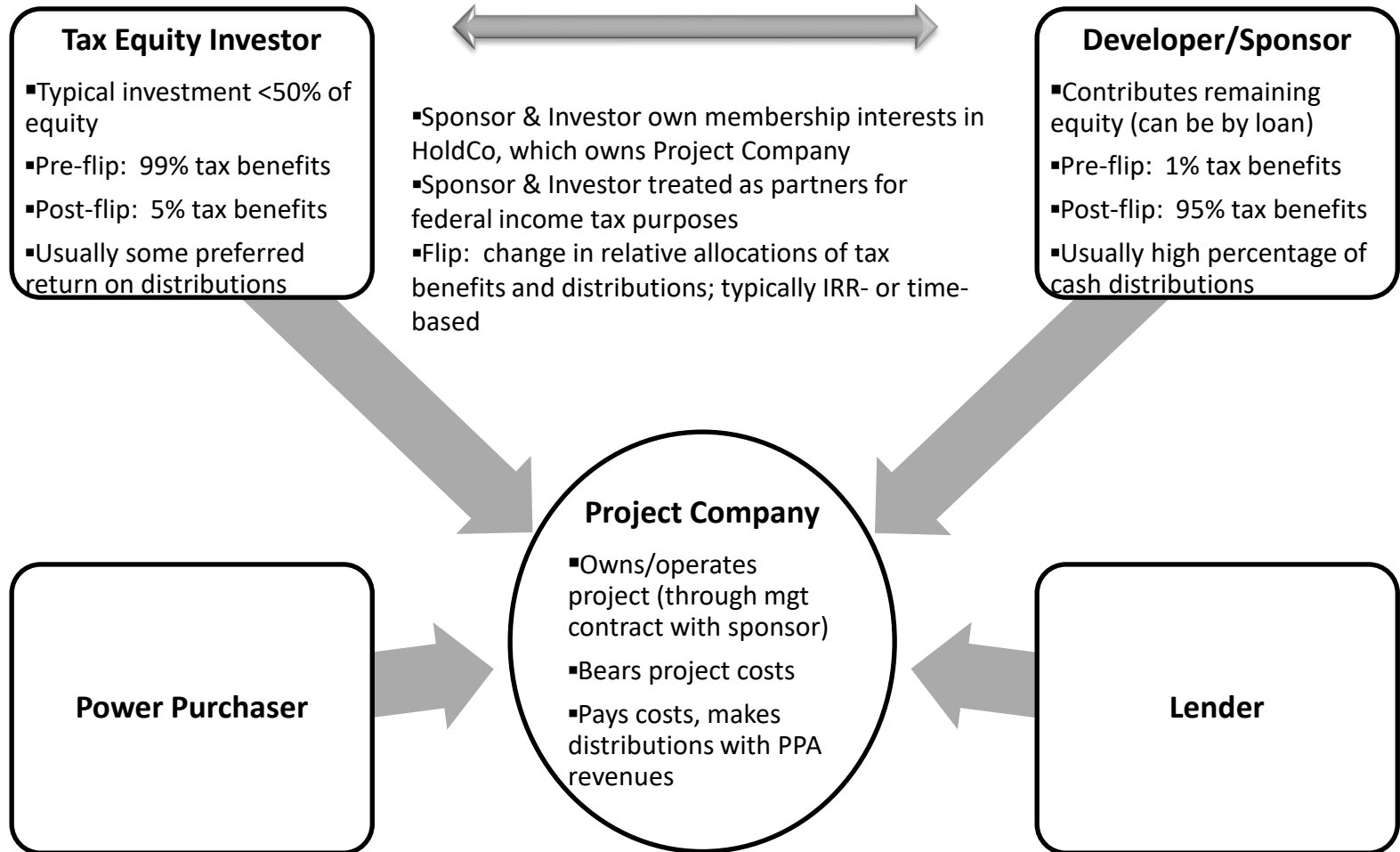


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Tax Equity Structures

- Three primary tax equity structures
 - Partnership Flip
 - Sale Leaseback
 - Inverted Lease

Partnership Flip



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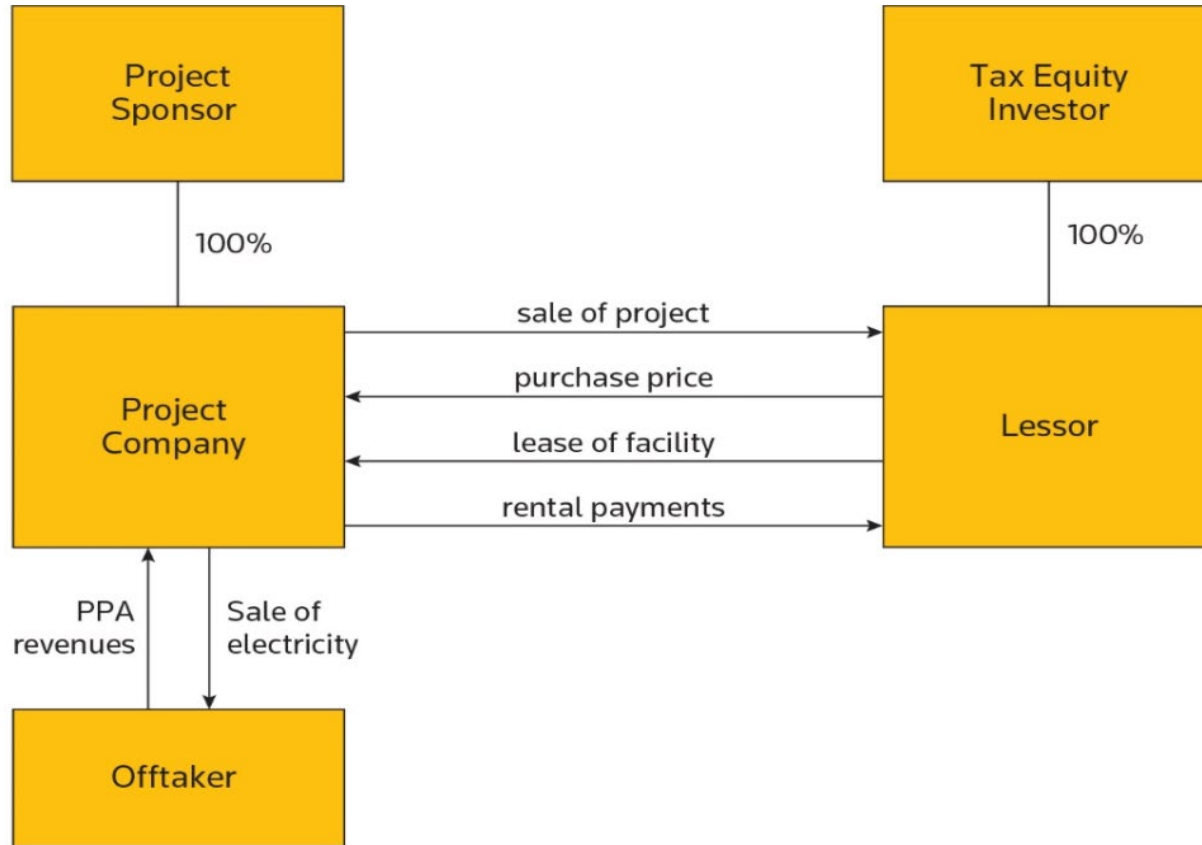


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Sale-Leaseback



- The Lessor is entitled to claim 100% of the available federal tax credit.
- The Lessor is treated as a disregarded entity or partnership for income tax purposes, with the result that the tax credits flow through to the tax equity investor.



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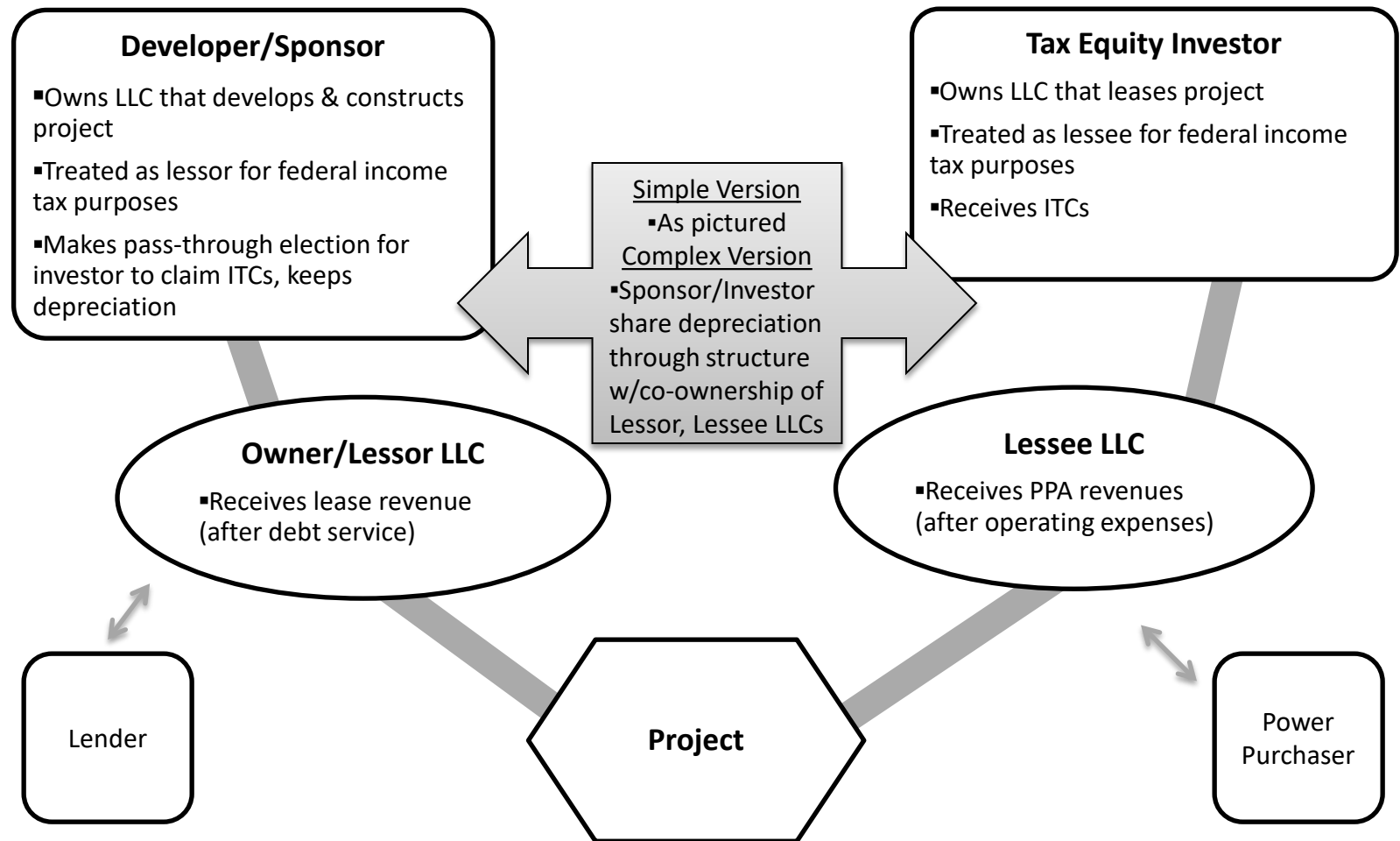


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Inverted Lease



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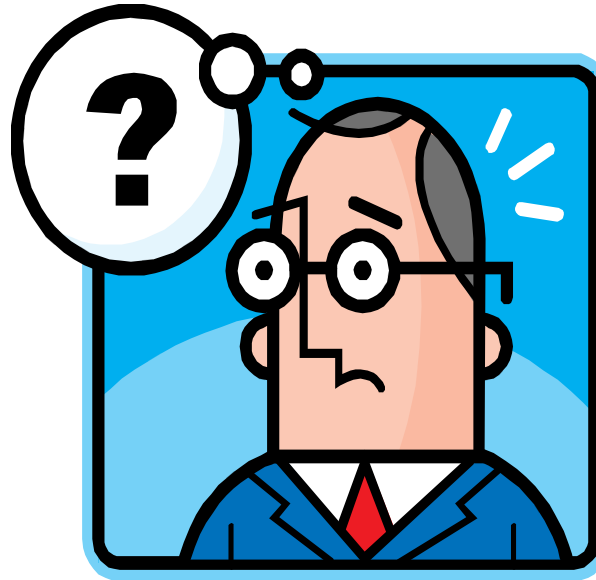


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QUESTIONS?



Upcoming Renewable Energy Webcasts



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- **March 2 – The Intersection of Rare Earth Minerals and Renewable Energy Projects**
- **April 6 – Hydrogen Energy Projects: A review of Legal Issues**

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