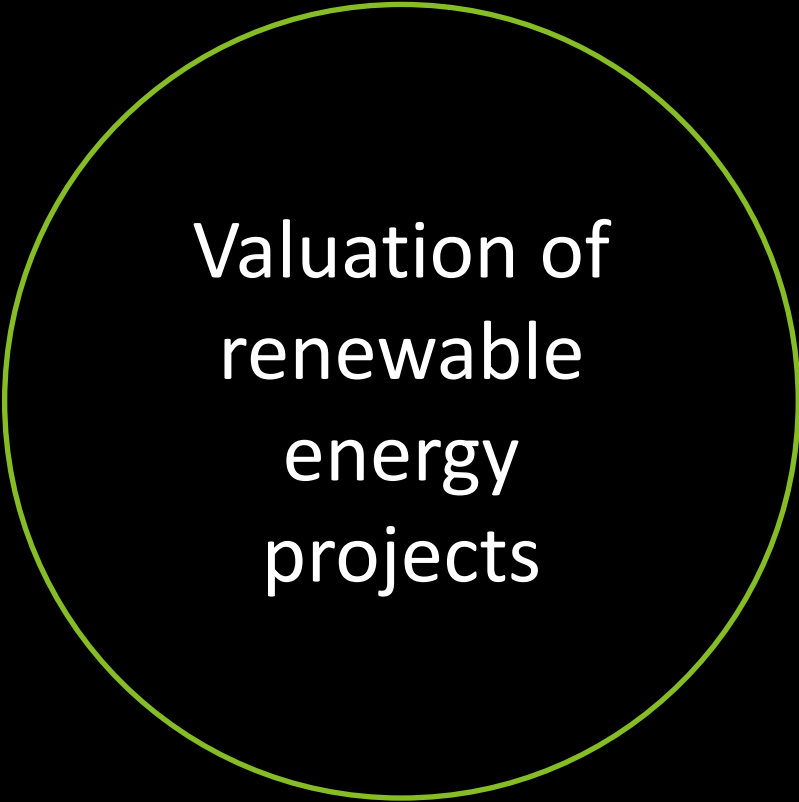




2021 Deloitte Renewable Energy Seminar

Resilient, reliable, and recharged

SEPTEMBER 22, 2021



Valuation of
renewable
energy
projects

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Valuation considerations

Context for discussion

Valuation considerations

Context for discussion

Valuation of a new solar or wind facility in the context of a tax equity financing



Valuation considerations

Estimating fair market value

Fair market value, as defined in U.S. Treasury regulations (Reg. §20.2031-1(b)), is “the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts”

Approaches to value

Rationale and key inputs

Income

- Rationale—Buyer would pay for present value of economic benefits
- Key assumptions
 - Output/yield
 - Power price—during and after PPA
 - Operating expenses
 - Income tax—ITC and depreciation
 - Economic Useful Life
 - Discount rate

Cost

- Rationale—Buyer would pay for cost to replicate asset of comparable utility
- Key assumptions
 - Replacement cost of individual components
 - Profit on panels and EPC contract (integrated manufacturer/developer/EPC)
 - Developer's profit

Market

- Rationale—Buyer would pay similar price (per watt) as comparable assets have sold for recently
- Key assumptions
 - Facility capacity (watts)
 - Multiple (\$ per watt) based on recent sales of comparable facilities

Approaches to value

Strengths and weaknesses

Income

- Strengths
 - Real buyers focus on income-generating potential
 - Reflects project-specific assumptions (PPA price, output/yield) and captures value of a project in the electricity market it's located in
 - Fully captures impact of tax credits and incentives (i.e. ITC, bonus depreciation, state credits, etc.)
- Weaknesses
 - Can be the most demanding of the approaches, because of the many assumptions and inputs

Cost

- Strengths
 - Cost assumptions typically based on actual costs which are supportable and project-specific
 - Used to also support cost segregation & ITC eligibility
- Weaknesses
 - Actual cost may not be reflective of current replacement cost
 - Little objective evidence for magnitude of developer's profit

Market

- Strengths
 - Uses market evidence
- Weaknesses
 - Wide ranges of value indications
 - Difficult to capture unique characteristics of the subject project
 - Comparability of assets
 - Available information (i.e. PPA prices, etc.)

Conclusion of value

Reconciliation of value indications

Need to come to a conclusion of fair market value

- Point estimate or range
- Primarily rely upon the income and cost approaches
- Ideally, values per the two approaches should be within 20 percent of each other
- If values per the two approaches corroborate each other, typically consider 50/50 weighting as reflective of the FMV
- Where value indications are very different:
 - Consider project-specific facts and circumstances
 - Consider revisiting key assumptions
 - Be able to explain difference and consider whether one approach is more reliable
 - May consider different weightings

Other considerations

Intangible values associated with Contracts/Related Party Agreements

Need to evaluate whether there are any intangible values:

- Power Purchase Agreements/Renewable Energy Agreements: assess the contract to confirm it is based upon market terms
- EPC Agreements:
 - Generally, already incorporates general contractor overhead and profit
 - Basis for cost segregation and cost approach valuation
- O&M agreements: assess the contract to confirm it is based upon market terms
- Land lease: assess the contract to confirm it is at market which is predominantly the case
- Developer services agreement: should be inked at or prior to construction and should tangible asset construction activities for favorable ITC treatment
- Interconnect agreement

Valuation considerations

Review of ITC, cost segregation, and implications on value

Cost segregation

Overview

Cost Segregation

Systematic process of investigation and allocation of capital expenditures into identified cost recovery periods.

- Capitalized Costs
 - Indirect Cost Allocation
 - Depreciable Costs
 - Non-depreciable Costs
 - Amortizable Costs

- Expensed Items

Results in increased depreciation benefits by properly classifying costs by distinguishing long-lived property from short-lived property based on IRC § 168 and Rev. Proc 87-56.

Can include an analysis of the costs to recommend property that may be eligible for 100% bonus depreciation under the Tax Cuts and Jobs Act.

Examples

5-year	<ul style="list-style-type: none">• Wind Turbine Generators• Solar Modules
15-year	<ul style="list-style-type: none">• Access Roads• 345 kV Transmission
39-year	<ul style="list-style-type: none">• O&M Building
Allocated	<ul style="list-style-type: none">• Engineering• Construction Permitting

Production Tax Credit and Investment Tax Credit

Overview

Production Tax Credit

An inflation-adjusted per kilowatt-hour (“kWh”) tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during the taxable year.

The duration of the credit is 10 years after the date the facility is placed in service for all facilities placed in service after August 8, 2005.

The tax credit is being phased down for wind facilities commencing construction after December 31, 2016. The phase-down for wind facilities is described as a percentage reduction in the tax credit amount described above:

Wind PTC Rate	2017	2018	2019	2020	2021
Reduction	20%	40%	60%	40%	40%

Investment Tax Credit

The Energy Policy Act of 2005 allowed taxpayers that construct or acquire certain energy property to claim an energy investment tax credit (“ITC”) for the taxable year in which such property has been originally placed in service by the taxpayer.

The ITC was extended for solar projects that commence construction before January 1, 2026 as follows:

Date Construction Begins	Placed in Service Date	ITC Amount
Before Calendar 2020	Before Calendar 2026	30%
During Calendar 2020, 2021, or 2022	Before Calendar 2026	26%
During Calendar 2023	Before Calendar 2026	22%
Before Calendar 2024	During or After Calendar 2026	10%
During or After Calendar 2024	N/A	10% (utility and commercial scale solar)
During or After Calendar 2024	N/A	0% (residential solar)

Cost segregation and ITC analysis

Before Analysis

	MACRS	ITC Eligible
Owner Indirect Costs		
Engineering /Other Fees	Allocated	TBD
Owner Direct Costs		
Solar Module Purchase	5-Year	Yes
O&M Building	39-Year	No
BOP Contractor		
Civil Work	Unknown	TBD
Inverters and Electric System	5-Year	Yes
Other Construction	Unknown	TBD
Substation	20-Year	No
Change Orders		
Change Order #1	Unknown	TBD
Change Order #2	Unknown	TBD

After Analysis

	MACRS	ITC Eligible
Owner Indirect Costs		
Engineering /Other Fees	Allocated	
Owner's Engineer	Allocated	
Capitalized Overhead	Allocated	
Geotechnical Investigations	Allocated	
Owner Direct Costs		
Solar Panel Purchase	5-Year	Yes
Solar Purchase & Transportation	5-Year	Yes
Solar Panel Final Commissioning	5-Year	Yes
O&M Building	39-Year	No
FF&E	7-year	No
BOP Contractor		
Civil Work - WTG Pads	5-Year	Yes
O&M Building Access Road	15-Year	No
Solar Maintenance Roads	15-Year	Yes
Inverters and Electrical System	5-Year	Yes
Inverters	5-Year	Yes
AC / DC Electrical Equipment	5-Year	Yes
Other Construction		
Met Tower Procurement & Installation	5-Year	Yes
SCADA System	5-Year	Yes
Substation		
345 kV Switchgear	5-Year	Yes
Dead End Arrestor	15-Year	No
Change Order #1		
Building Revisions	39-Year	No
Distribution Line for Service Power	20-Year	No
Change Order #2		
Site Grading – Solar Array	5-Year	Yes

Cost segregation

Intangible assets

Treatment: Intangible assets such as PPAs, land leases, and interconnection agreements are not ITC-eligible and not eligible to be depreciated over a 5-year MACRS life

Typical Valuation in Cost Segregation: Often included at cost (small value)

Issue: Intangible assets (especially PPA) may have significant value over and above cost if they are priced above the current “market”

Implications for Valuation: Best practice to address issue up front by including the valuation of the PPA in the appraisal report.



Valuation considerations

Implications of partnership structure

Implications of partnership structure

Partnership Flip

Inverted Lease

Sale Leaseback

There are two primary considerations that must be made regarding the partnership structure and the valuation:

- What is the partnership structure and how does that affect the tax basis?
- Is the project based on Fair Market Value or is it based on the Capital Project cost?

Cost Basis vs. FMV Basis

MACRS Allocation & ITC Eligibility

Cost Basis

	MACRS	ITC Eligible
Owner Indirect Costs		
Engineering /Other Fees	Allocated	
Owner's Engineer	Allocated	
Capitalized Overhead	Allocated	
Geotechnical Investigations	Allocated	
Owner Direct Costs		
Solar Panel Purchase	5-Year	Yes
Solar Panel Install	5-Year	Yes
Solar Panel Shipping	5-Year	Yes
O&M Building	39-Year	No
FF&E	7-year	No
Lease Agreements	AMT	No
PPA	AMT	No
Utility Owned Interconnect	AMT	No
BOP Contractor		
Civil Work		
Solar Panel Grading	5-Year	Yes
O&M Building Access Road	15-Year	No
Solar Maintenance Roads	15-Year	Yes
Inverters and Electrical System	5-Year	Yes
Inverters	5-Year	Yes
AC / DC Electrical Equipment	5-Year	Yes
Other Construction		
Met Tower	5-Year	Yes
SCADA System	5-Year	Yes
Substation		
345 kV Switchgear	5-Year	Yes
Dead End Arrestor	15-Year	No
Change Orders		
Change Order #1		
Building Revisions	39-Year	No
Distribution Line	20-Year	No

FMV Basis

	MACRS	ITC Eligible
Owner Indirect Costs		
Engineering /Other Fees	Allocated	
Owner's Engineer	Allocated	
Capitalized Overhead	Allocated	
Geotechnical Investigations	Allocated	
Owner Direct Costs		
Solar Panel Purchase	5-Year	Yes
Solar Panel Install	5-Year	Yes
Solar Panel Shipping	5-Year	Yes
O&M Building	39-Year	No
FF&E	7-year	No
Lease Agreements	Allocated	
PPA	AMT	No
Utility Owned Interconnect	Allocated	
BOP Contractor		
Civil Work		
Solar Panel Grading	5-Year	Yes
O&M Building Access Road	15-Year	No
Solar Maintenance Roads	15-Year	Yes
Inverters and Electrical System	5-Year	Yes
Inverters	5-Year	Yes
AC / DC Electrical Equipment	5-Year	Yes
Other Construction		
Met Tower	5-Year	Yes
SCADA System	5-Year	Yes
Substation		
345 kV Switchgear	5-Year	Yes
Dead End Arrestor	15-Year	No
Change Orders		
Change Order #1		
Building Revisions	39-Year	No
Distribution Line	20-Year	No



Utility Owned Interconnect



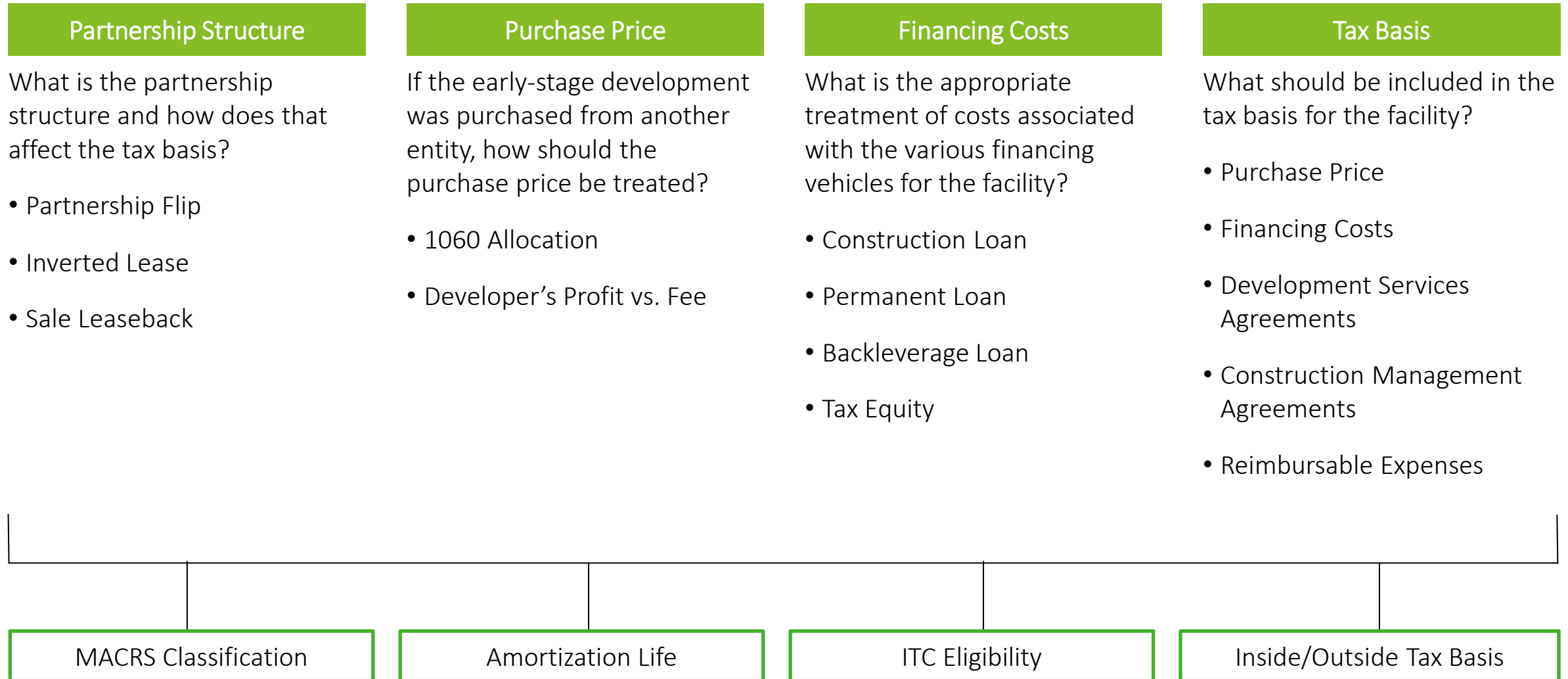
If the PPA is at market, it will be Allocated and will have a different treatment, like the lease agreements and interconnect.

Valuation considerations

Connecting the Valuation to the MACRS Allocation

Cost segregation and PTC/ITC analysis

Key considerations



Valuation considerations

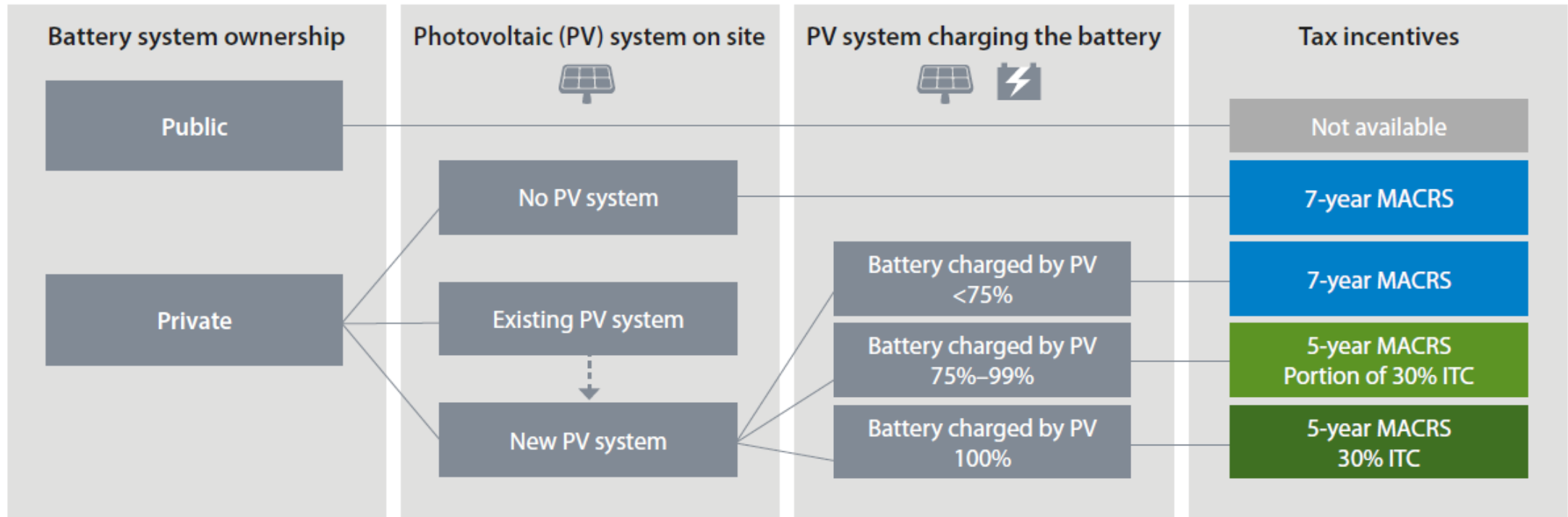
Battery storage valuation

Battery storage valuation

Valuation considerations

- Primary approaches – income and cost (for new batteries)
- ITC-eligibility (solar)
- Useful life
- Discount rate – consider composition of income stream

Federal Tax Incentives for Energy Storage Systems



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Polling question #1

What has been your involvement in renewable energy projects?

- Developer
- Contractor
- Tax equity or other financing party
- Other



Polling question #2

What is the most common valuation approach you have used/seen used for renewable energy projects?

- Income approach
- Cost approach
- Market approach
- All three approaches
- Other



Polling question #3

What type of transaction have you been primarily involved in?

- Partnership Flip
- Inverted Lease
- Sale Leaseback
- Other
- None or Not applicable



Polling question #4

What is the range of developer's profit/fee you have most commonly seen?

- 0-5%
- 6-10%
- 11-15%
- 16-20%
- >20%
- Don't know/not applicable

