



Renewable Energy Projects Financing: Distributed Solar

March 29, 2024

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IPA Power Hour Webinars



- **Today's Power Hour:**

- Explore options and models for Distributed Generation (DG) solar project financing, including key players in the industry.

Power Hour is a series of educational and informative presentations on a wide range of clean energy topics and emerging issues.

- Power Hour webinar series started in 2021.
- To-date, the Agency has hosted 29 Power Hour webinars.
- Invited energy thought leaders and experts locally and nationally.

WEBINAR ARCHIVES: <https://ipa.illinois.gov/about-ipa/ipa-events/previous-power-hour-events.html>

Upcoming Webinar



IPA Power Hour 3: Climate Change and Health Equity

Date: April 26

Time: 12pm-1pm CT

[REGISTER HERE](#)



ILLINOIS POWER AGENCY PRESENTS

IPA Power Hour 3—*Climate Change and Health Equity*



Apr 26

About the IPA

Vision:

"A clean, reliable, and cost-effective energy future for residents and businesses across Illinois"

- Independent State Agency created in 2007
- Responsible for the development of an annual Electricity Procurement Plan for customers of electric utilities
- Supports the Illinois Renewable Portfolio Standard (RPS) through the development and implementation of:
 - Long-Term Renewable Resources Procurement Plan
 - Competitive procurement for utility-scale projects
 - Solar incentive programs for homes and businesses



Types of Projects, Key Players, and Business Models for DG Solar

Chandrika Mital
IPA Director of Renewable Energy Finance

Introduction

Types of Solar Projects by Size

- Utility Scale
- Distributed Generation or Commercial
- Residential

For more information about the different types of solar projects, refer to the [IPA Power Hour Webinars here](#)

We will be discussing financing for commercial solar or DG solar projects today

Introduction



Solar Financing from a Customer's Perspective

- Power Purchase Agreement
- Lease
- Loan
- Cash Purchase

For more information about the different types of financing options for a customer, refer to the [IPAA Power Hour Webinars here](#)

We will be discussing financing for commercial solar or DG solar projects from a developer's perspective

Renewable Energy Financing: DG Solar

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Key Players in the financing of a DG solar project

Developer



Financiers

- Cash / Sponsor Equity
- Large asset management firms
 - Real estate investment trusts (REITs)
 - International investment funds
 - Sovereign wealth funds
- Debt Providers
- Large national banks
 - Local banks
 - Credit unions
- Tax Equity Providers
- Large national banks
 - Roofing companies
 - Sophisticated private capital

Offtaker



Solar Developer Business Models

Owner / Operator

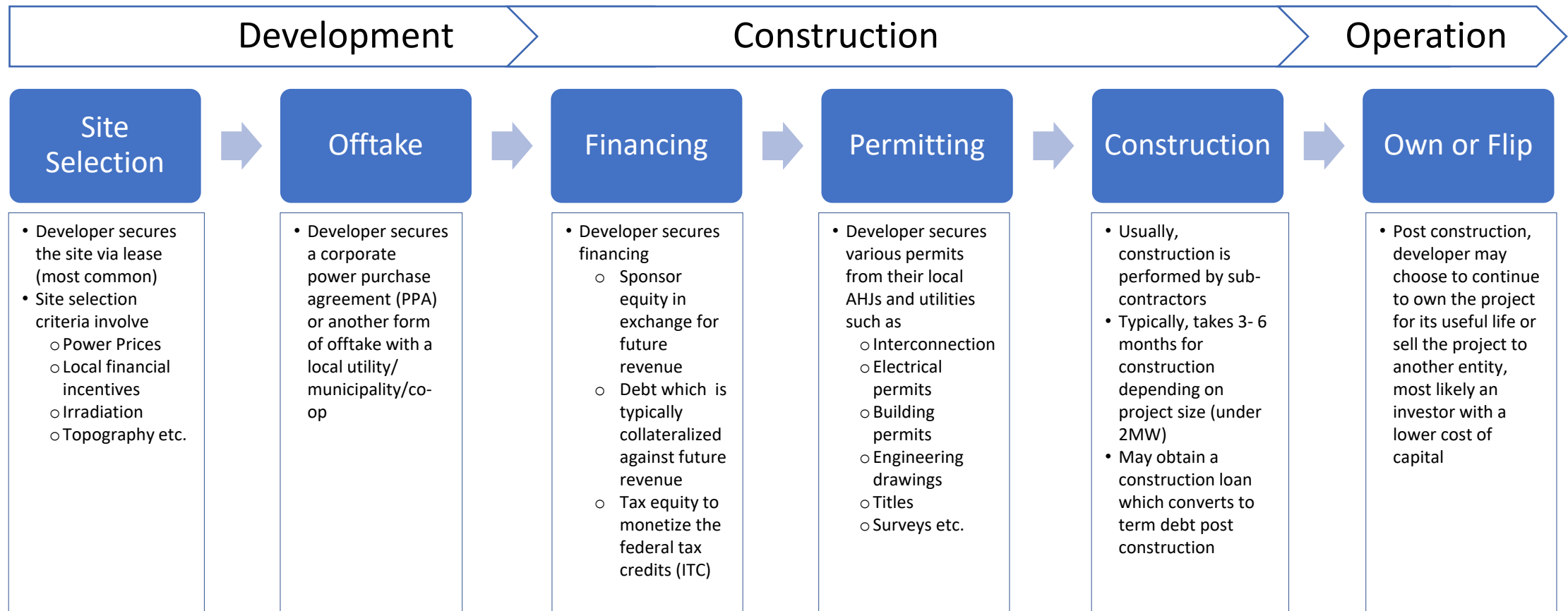
- Long term owner (10+ years)
- More likely to have sophisticated long-term financing in place, not financing per project
- More likely to build on balance sheet
- More likely to perform Operations & Maintenance (O&M) on the system

Develop & Flip

- Tends to sell projects pre or post construction
- Tends to raise financing per portfolio with the goal to sell after permitting (NTP) or after construction (COD)
- Less likely to self perform O&M

Renewable Energy Financing: DG Solar

DG Solar Project Life Cycle

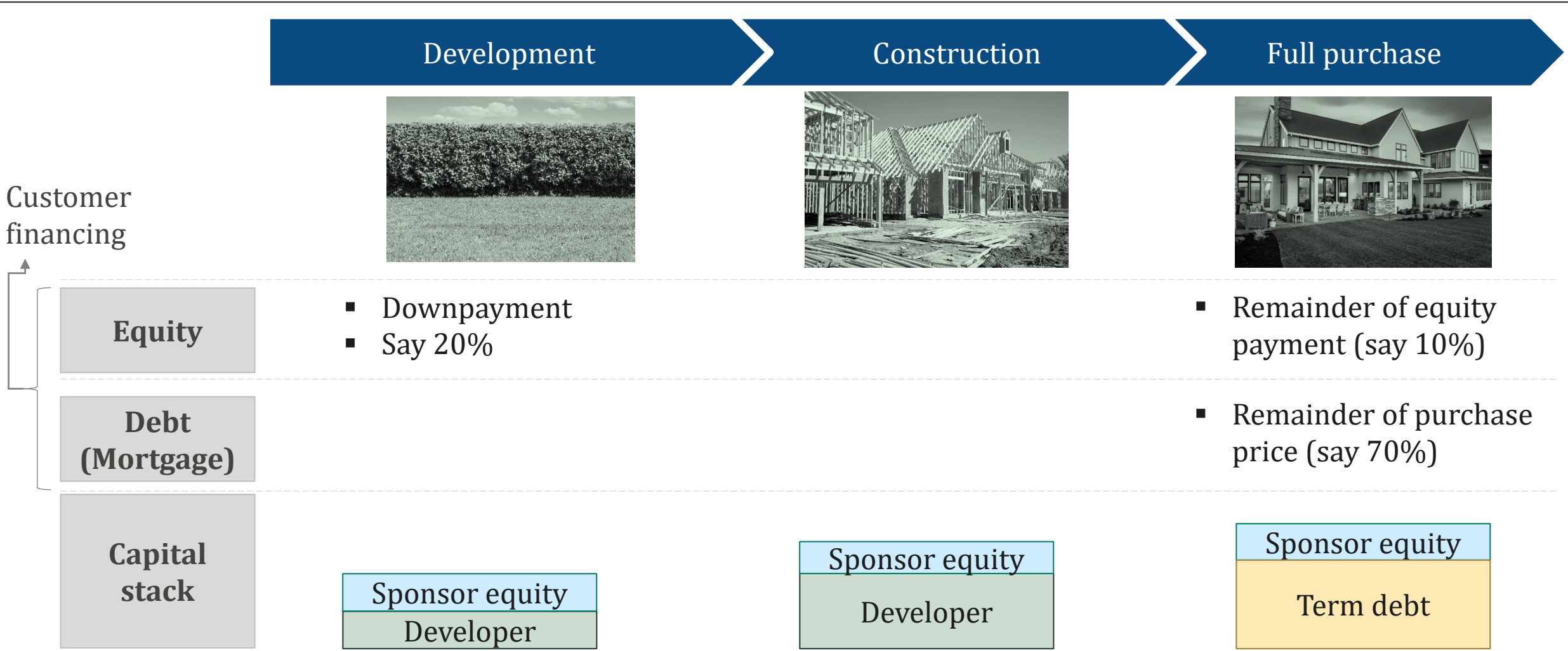




Financing Process, Risks, and Capital Stack for DG Solar

Rohan Saharia
Partner, Environmental Resources Management (ERM)

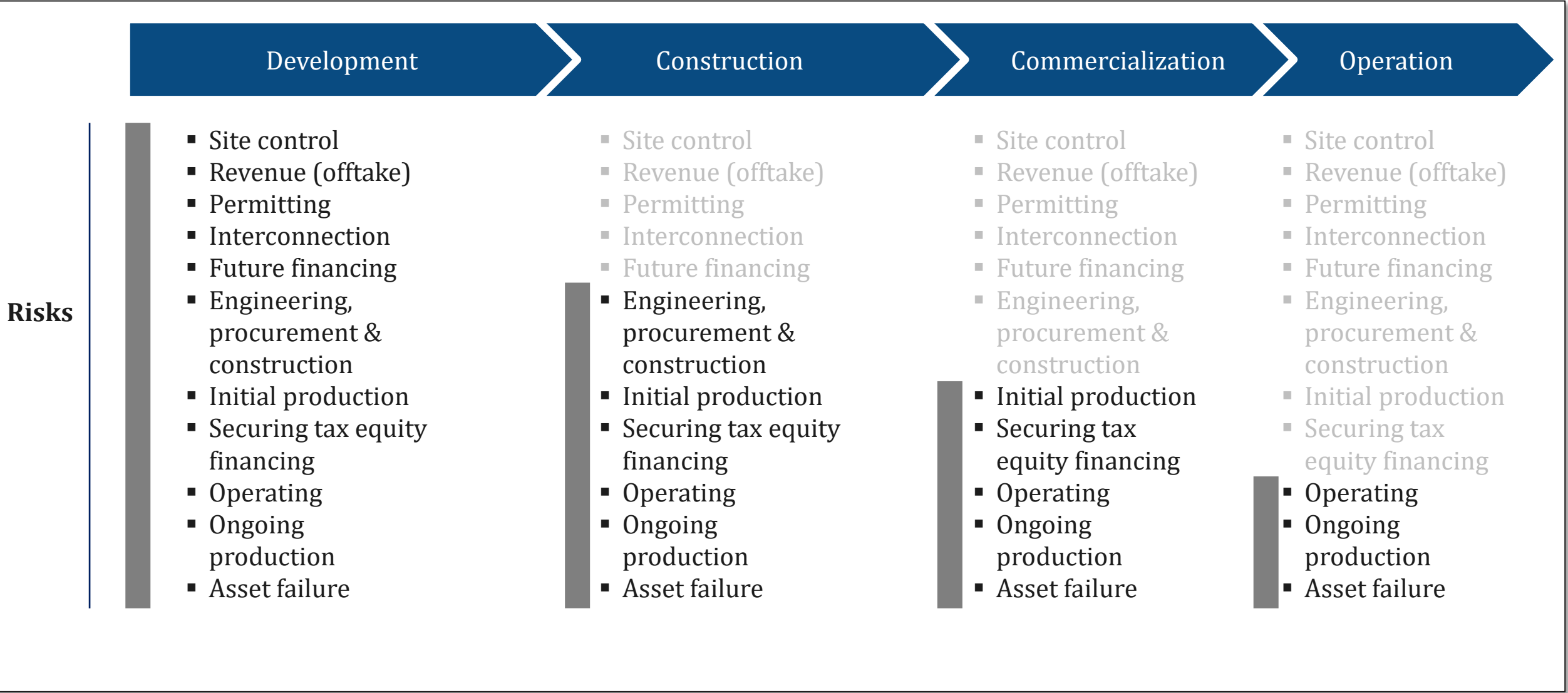
The process of financing a home offers close parallels to solar financing



For consideration:

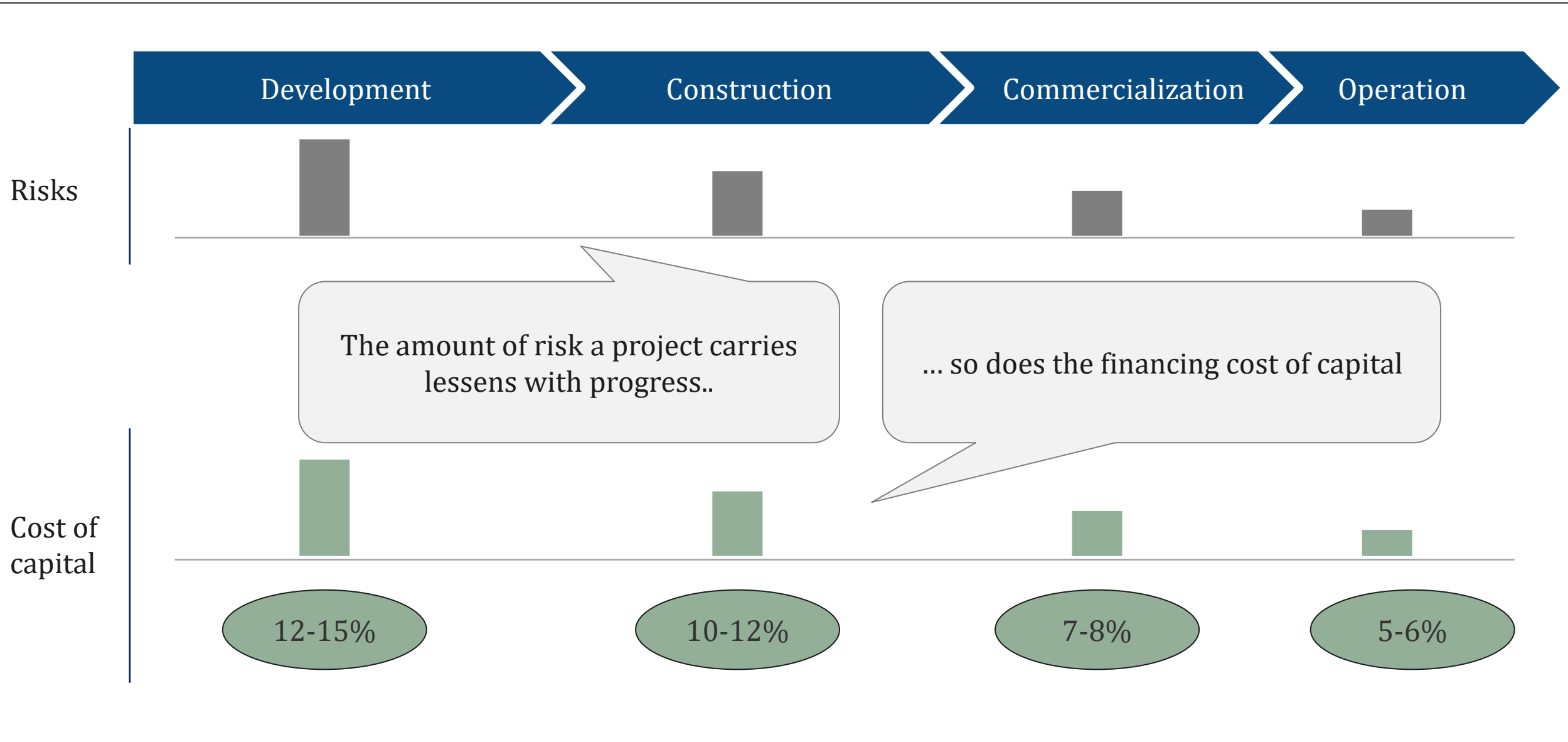
- Why does the bank want sponsor equity?
- In case of default, what recourse do banks have?

A solar project progresses is increasingly de-risked through its life cycle



Lower risk brings lower cost of capital

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The capital stack (invested capital) in a solar asset typically evolves over time

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Owner

Developer

Sponsor

Sponsor

Sponsor

Capital sources

- Developer balance sheet
- Financiers (loan or equity)

- Sponsor equity
- Construction debt

- Sponsor equity
- Tax equity
- Term debt

Capital stack

Developer

Sponsor equity

Tax equity
Sponsor equity

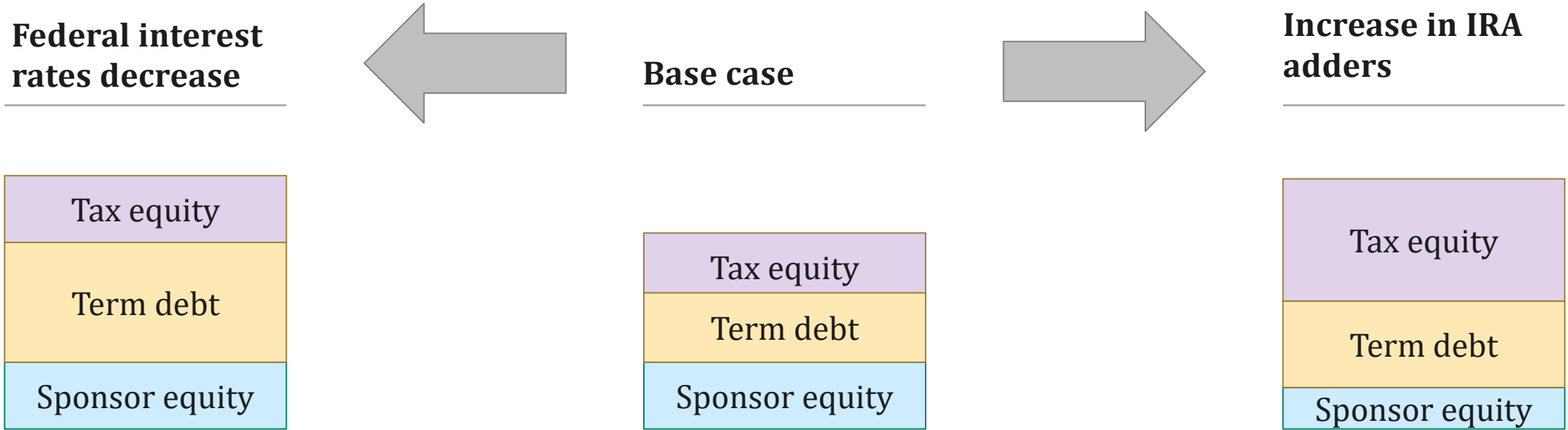
Tax equity
Term debt
Sponsor equity

Commentary

- Value is increasingly created as the project progresses from contractual rights to producing energy
- Different types of capital and investors can be involved in an asset
- Developers can be involved in the short-term, with sponsor equity staying longer
- In this example, sponsor equity creates value by taking construction risk, brings in lower cost of capital, and would then focus on repeating the process on another project

Project financing is dependent on larger trends such as federal interest rates and Inflation Reduction Act (IRA)









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Commentary

- A reduction in federal interest rates or increase in IRA adders adds more value to a project
- This also allows sponsors to raise additional sources of capital (debt, tax equity etc.) and thus use their capital for further projects
- Recent IRA regulations have made it easier to find tax equity investors (via sale of tax credits)

There are typically three salient investors involved in financing a DG solar project

	<u>Description</u>	<u>Risk taken</u>	<u>Examples</u>
Sponsor equity	<ul style="list-style-type: none"> Project owners over 5-10, and in some cases life of project Typically Private Equity funds who raise capital from investors 	High	  
Debt provider	<ul style="list-style-type: none"> Provide construction or term (long-term operating) debt secured by the project Typically large banks 	Low	 
Tax equity provider	<ul style="list-style-type: none"> Investors who are able to monetize the tax benefits (for e.g., Income Tax Credit or ITC) of the project – typically short term (5 years) Typically large banks or insurance companies 	Low	  
Commentary	<ul style="list-style-type: none"> Debt and tax equity is typically non-recourse, i.e., the financiers' rights in case of a default are limited to the project. Since the project is the ultimate collateral, heavy attention is paid to the contractual documents (similar to a house) 		



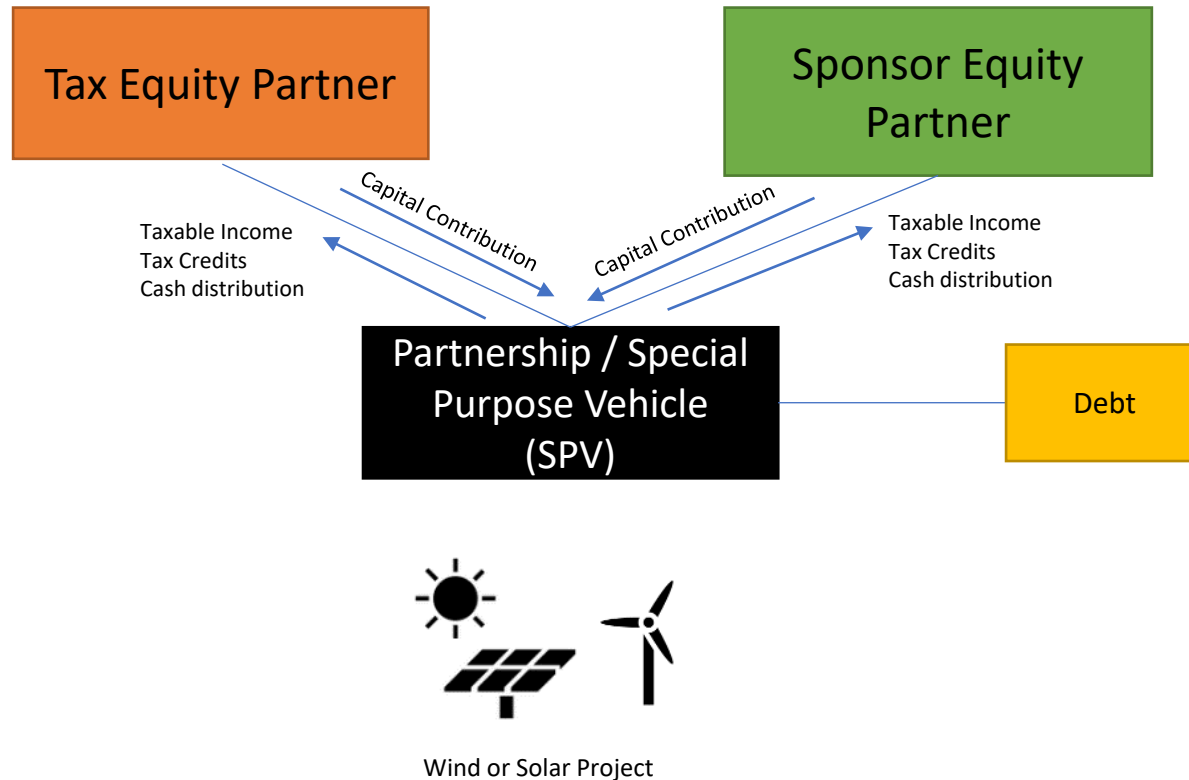
Summary

Chandrika Mital
IPA Director of Renewable Energy Finance

Summary

- Financing a DG Solar project is like financing a home
- As the project progresses in its development life cycle, the level of financing risk decreases
- Lower risk brings in lower cost of capital
- The capital stack typically evolves over time
- Project financing is dependent on larger trends such as federal interest rates, federal and local incentive programs, the Inflation Reduction Act (IRA) etc.
- There are typically three salient investors involved in financing a DG solar project
 - Sponsor Equity
 - Tax Equity
 - Debt

Summary - Financing structure



There are three main entities making up the capital stack of a typical DG project or portfolio of projects

- Sponsor or Cash Equity Partner –
 - This is the primary owner of the project, contributing 20% to 50% of the capital costs of the project
 - In a develop and flip business model, the sponsor equity buys out the developer after the initial development phase
 - In an owner/operator model, the sponsor equity is typically the developer
- Tax Equity Partner –
 - Most owners of renewable energy projects don't have sufficient taxable income to absorb tax credits generated by the project and thus bring in a tax equity investor that has the tax capacity to absorb the tax credits
 - Projects are usually structured as a special purpose vehicle (SPV) treated as a partnership for U.S tax purposes
 - Tax equity partner contributes about 30% of the capital costs
- Debt –
 - In a debt friendly environment, between 20% to 50% of the capital cost can be financed with debt



Q&A

Contact Us



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