ENERGY AS A SERVICE

AND MUNICIPAL BONDS – WHAT YOU SHOULD KNOW

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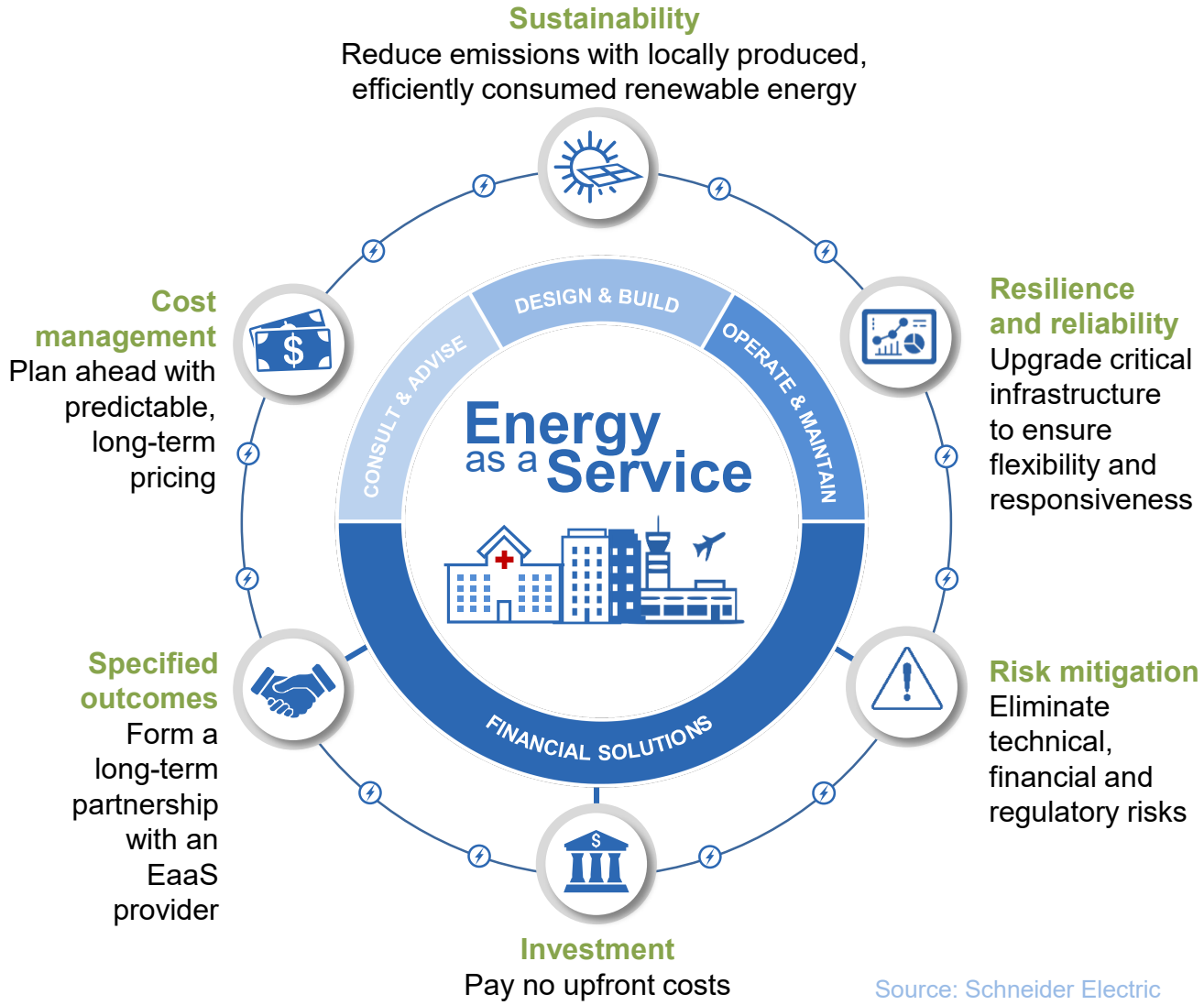
What are EaaS Transactions

What is it? A contractual methodology for facilities owners to transfer risk of its internal energy and utility services to an expert provider that can finance, operate and maintain such assets for a long-term period, enabling owners to focus on their core mission of health care, education, government, etc.)

Capital Commitment – Projects often require limited upfront investment from owner, and in some instances involves concession payment from the private developer. Some projects also involve upfront capital improvements by the Developer

Typical Owners – Municipal governments, universities, hospitals, schools and any large campus owner



Source: Schneider Electric

What are EaaS Transactions?

How is this different from typical ESCO projects? ESCOs typically will design and construct facility improvement measures for a guaranteed maximum price and provide an energy savings guarantee for a limited period of time (often 1-year), but then hand the asset back to the owner to operate and maintain. With an EaaS the private developer is retaining long-term operations and maintenance risk.

Why do it?

Risk Transfer – Transfer long-term operational and maintenance risk of non-core functions to an expert that is singularly focused on ways to improve energy efficiency and resiliency from an owner that is primarily focused on its core mission of healthcare, education, government services, corporate interests, etc.

- **Partnership –** Gain a facilities management expert long-term partner that can evaluate campus-wide utility needs on a scheduled and programmatic basis.
- **Lock-in Long-term Utility Facilities Costs –** While the underlying commodity risk is typically retained by the project's owner, guarantees around utility availability, efficiency and reduction and facility performance are retained by the developer.
- **Performance Based Compensation –** Compensation is directly linked to the successful performance of the utility assets in a manner that satisfies the key performance indicators in the contract.

Types of EaaS Projects

Public University Campus Central Utility Plant DBFM P3 Project (30 years)

- **Replacement of Central Plant –** Will provide heating and cooling to a number of buildings on campus
- **New Underground Utility Distribution System –** Connecting buildings to central plant
- **Energy Conservation Measures –** HVAC equipment and controls, lighting, and heat pumps to improve energy efficiency and improve climate control
- **Renewable Energy –** New solar PV canopies over parking lots – will produce 20% of energy consumed on campus
- **Education –** Several internships offered during construction O&M. Scholarships will also be awarded to eligible students
- **DBFM Availability Payment Structure –** $200-$250 million **/ No upfront payment**
- **Campus Retains Staffing for Operations**

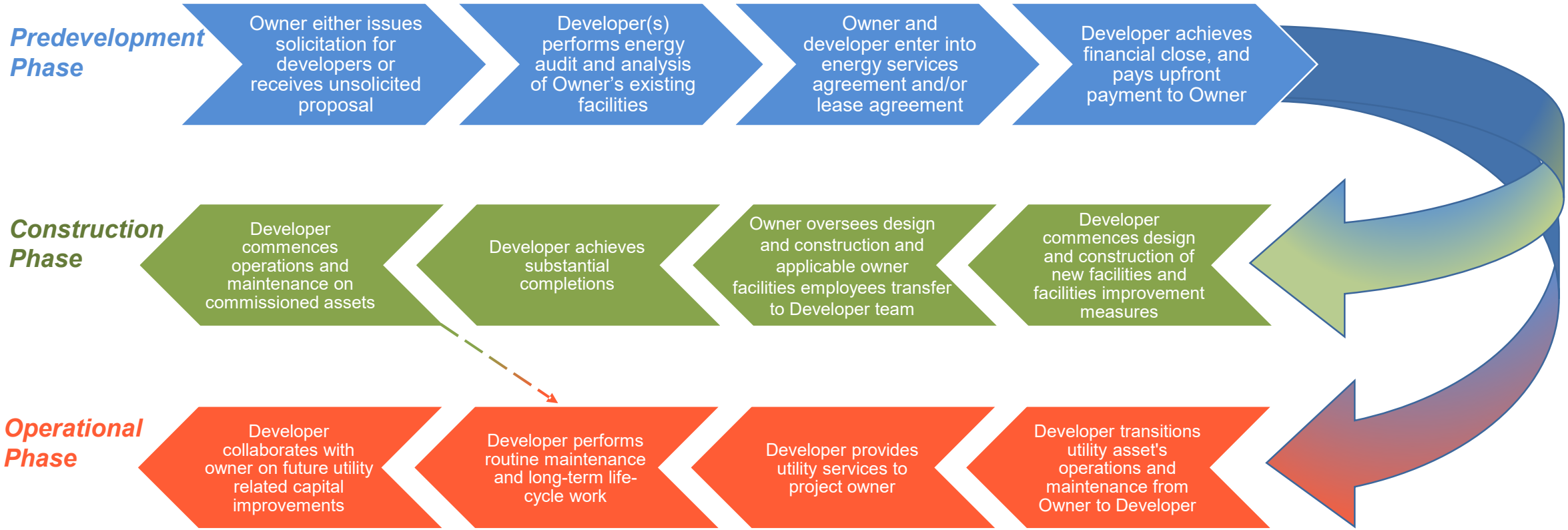
Private Hospital System DBFOM EaaS (15 years)

- **~$100+ million upfront payment** for 15-year concession across nearly 10-different hospital campuses
- **Upgrades to Chilled Water, Tower Water, Heating Water and Steam Systems**
- **O&M of Chilled Water System**
- **Air Handling Unit Upgrades and building automation systems**
- **Improving procedure rooms and installing LED lighting**
- **~$10 million in annual guaranteed cost savings** across ~20% reduction in electricity consumption and ~35% natural gas consumption

Private University FOM Central Utility EaaS (40 years)

- **~$100+ million upfront payment** for 40-year campus-wide concession through sale and purchase agreement structure
- **Transfer of Existing System Assets –** Steam, water, compressed air and electricity assets. Developer must provide all water / steam requirements for the campus up to a max and a certain minimum for electricity
- **Resiliency –** Back-up capacity afforded from developer's existing off-site plant
- **Employee Transfer –** Several university employees transitioned to private developer
- **Off-Balance Sheet –** Risk of loss generally retained by developer
- **Long-term CAPEX plan –** Parties to meet and propose upgrades every few years

What are EaaS Transactions?
Energy as a Service Project Life-Cycle



EaaS Capital Project Myth Busting

EaaS IS NOT:

- **Owner loses control of critical energy assets**
- **Inefficient cost of capital given traditional tax-exempt financing available to not-for-profit or public owners**
- **Overly complicated or protracted to deliver**
- **Redundant to existing procurement methods, including design-build with separate operation and maintenance contracts**

A EaaS IS:

- Owner retains control of assets through step-in rights, and can achieve more security and redundancy under EaaS to ensure continuity of service then traditionally through self-managed assets
- Notwithstanding a potential cost-of capital differential (where tax-exempt solution is not feasible), meaningful value for money beyond cost of capital may be achieved through risk transfer, including technology risk and long-term maintenance / life-cycle retained by the Developer
- EaaS projects are becoming more frequent for campus facilities owners, and can be procured, financed and delivered on more efficient time scales than in earlier transactions.
- Having an equity investor or guarantor, with its own capital and balance sheet at risk, tied to the long-term performance and availability of the assets provides a guarantee and assurance of availability and performance not otherwise achievable under other non EaaS structures

EaaS Market Precedent Comparison

Deal Components	EaaS Availability Payment	EaaS Sale / Lease Structure
Ownership of Energy Assets	Ownership retained by Owner	Owned by SPV, transfer through PSA
Upfront Payment	No	Yes
Employee Transfer	No	Yes, but not always
Lender Security Interest	In the Concession Agreement, Accounts and Major Project Contracts	Mortgage / security interest on the physical assets of the project
Third Party Revenue Stream	No, but not precluded	Yes, permissible
Owner Provided Revenue Streams	• Fixed Component for Debt / O&M Costs • Variable Component for Commodity Costs	• Fixed Capacity Cost (may be reduced if otherwise offset by 3rd party revenues) • Service Payment for O&M Costs • Energy Consumption Payment

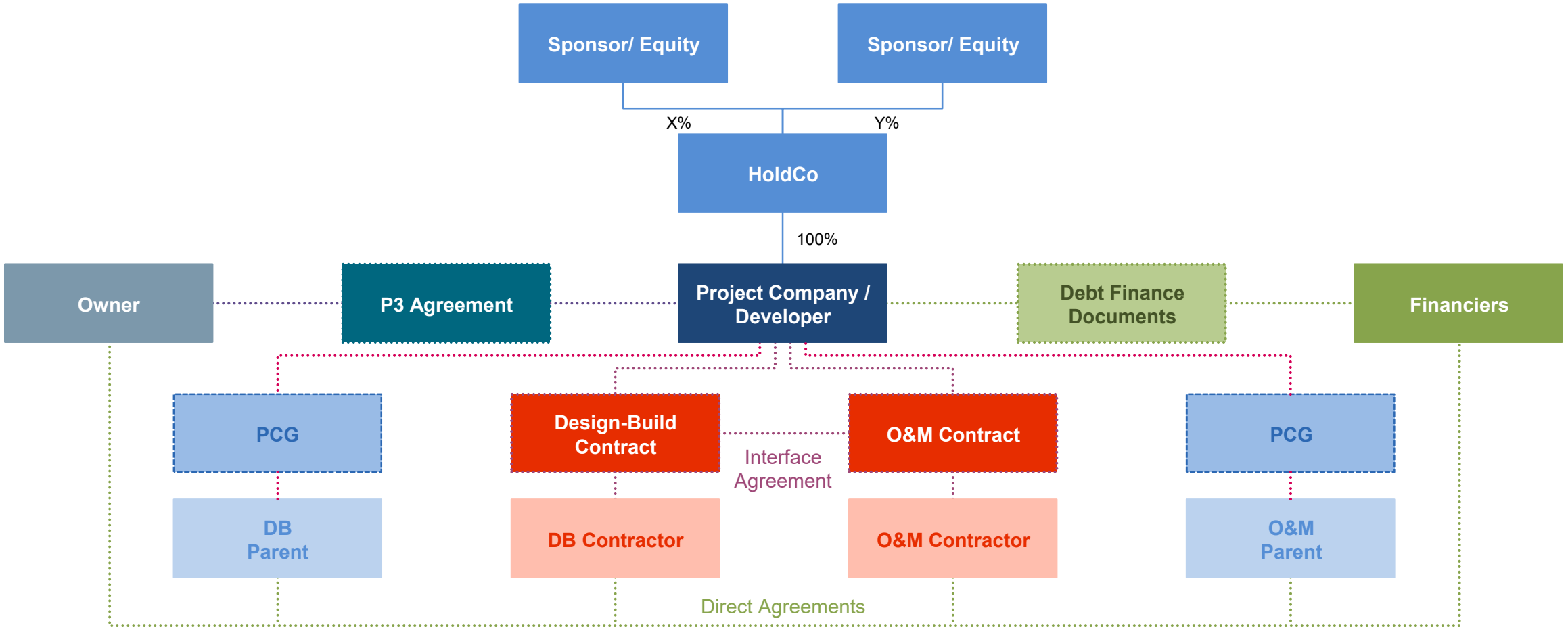
EaaS Market Precedent Comparison

Deal Components	EaaS Availability Payment	EaaS Sale / Lease Structure
Industry Performance Standard Changes	Certain protections afforded to the SPV	Retained by SPV
Term	~30 years (may be longer)	40-50 years
Risk of Loss	Retained by Owner if agreed damage is too excessive w/in 180 days Owner pays Extended RE Termination Compensation. If not agreed, then payment of default termination compensation	Transferred to SPV, with obligation to fully restore regardless of insurance proceeds. Option to extend term to put SPV in no better no worse position as a result of such damage
Off-Balance Sheet	No	Yes

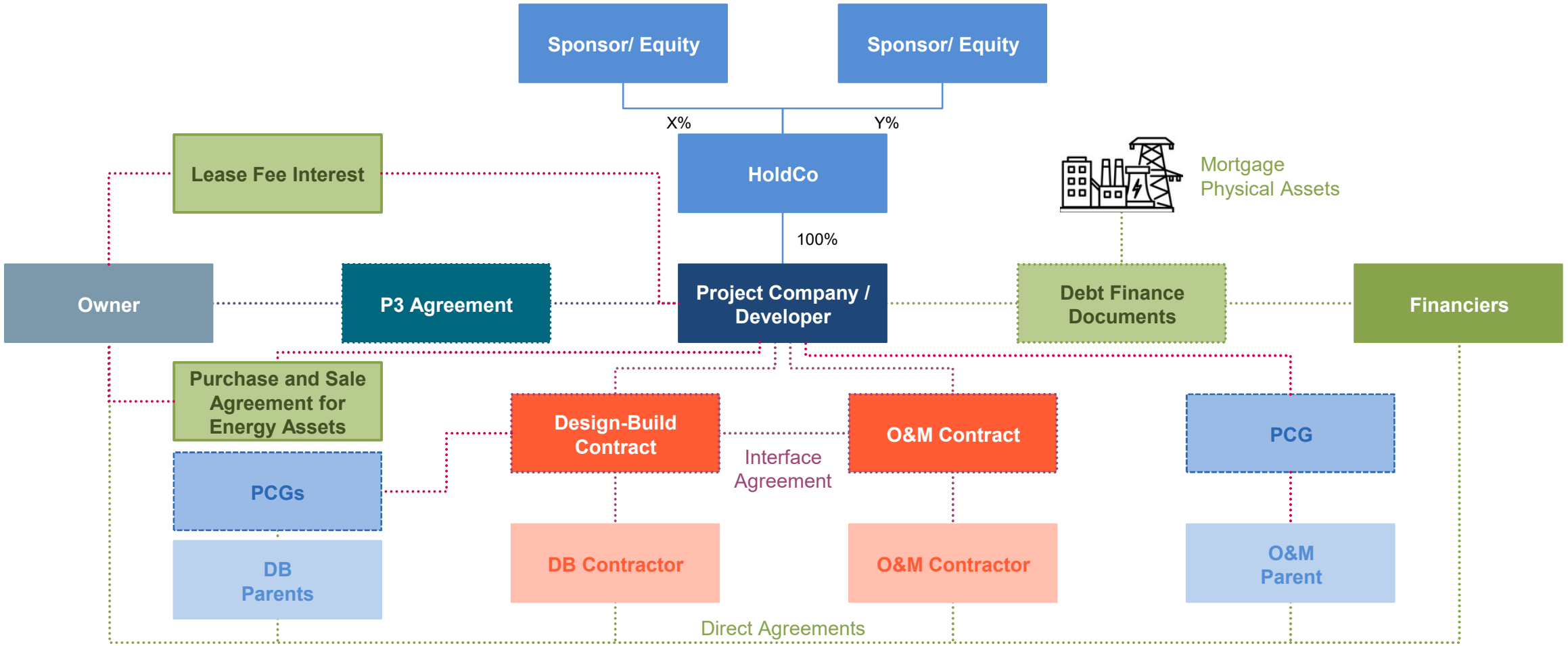
EaaS Market Precedent Comparison

Deal Components	EaaS Availability Payment	EaaS Sale / Lease Structure
Termination Compensation Owner Default / Convenience	Equity IRR + Full Project Debt + Breakage Costs	Greater of (i) all future expected revenues from owner under the concession + future projected 3rd party revenues and (ii) the asset's appraised acquisition price, in no case less than lender liability (no obligation to repurchase)
Termination for Extended RE	Equity Invested, but not yet distributed + Full Project Debt + Breakage Costs	Limited Termination right for narrow circumstances linked to certain FME.
Termination for Developer Default	Pre-SC – lower of D&C Work Value and 80% of Project Debt Post-SC - 80% of Project Debt	No termination compensation – certain non-BK defaults subject to prolonged cure. Lenders have rights to physical assets if not purchased back by owner

Availability Payment EaaS Structure



Sale / Lease Structure



EaaS and Debt Financed Facilities

Existing Debt Financed Facilities

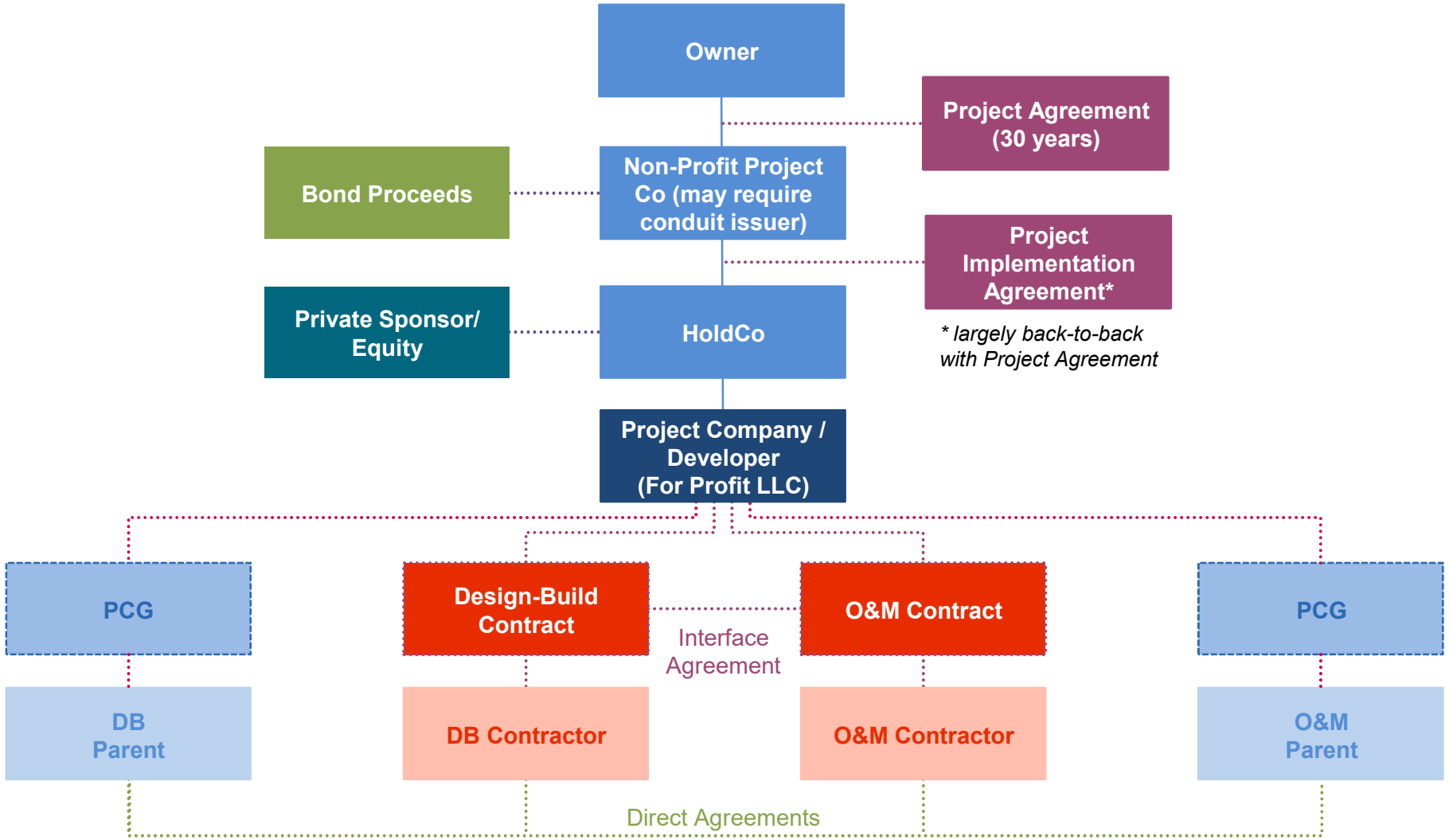
- EaaS transactions frequently involve facilities originally financed with tax-exempt bonds or similar obligations
- As a result, compliance with existing bond and tax covenants, and related state and federal tax laws, are threshold issues when structuring an EaaS transaction
- Among others, facility ownership/property rights can be critical to bond and tax compliance and EaaS transaction structuring (e.g., lease structures, payment obligations)
- Alternatives to compliance may include bond defeasance; however, such alternatives can involve prohibitive costs

Bond Document Considerations

Common Bond Document Covenants

- Prohibitions on system or asset sales, transfers or modifications
  - Related state law issues
- Operating Covenants
  - Limitations on liens and encumbrances; permitted liens
  - Obligations to operate, maintain and repair system or facilities
  - Insurance
- Trust Estate and Definitions: Revenues, Operation and Maintenance Expenses, Debt
  - Payments to provider
  - Debt and additional debt limitations
  - Rate covenants
- Credit support and intercreditor issues

Tax Exempt Structure



EaaS – The Tax Lawyer's View

Transaction Structures Viewed Through Different Tax Lenses

- Private Business Use and Risk Allocation
- Existing Assets vs. New Assets
- Types of Assets
- Upfront Payments
- Comparing Tax Benefits

EaaS – The Tax Lawyer's View

Private Business Use

- Ownership for Federal Tax Purposes
- Leases and Licenses (Possession and Control)
- Service Provider
  - Revenue Procedure 2017-13
  - Incidental Repair and Maintenance

EaaS – The Tax Lawyer's View

Risk Allocation

- Construction Cost and Timing
- Performance or Availability
- Durability and Replacement Costs
- Demand-Side Risk

EaaS – The Tax Lawyer's View

Existing Assets or New Assets

- Private Business Use of Existing Assets
  - Identifying Bond-Financed Assets
  - Remedial Action Options
    - Defeasance
    - Alternative Use of Disposition Proceeds
- Private Business Use of New Assets

EaaS – The Tax Lawyer's View

Type of Assets

- Energy Production or Distribution
  - Look to use if energy
- Energy Efficiency
  - Look to use of building

Upfront Payments

- Disposition Proceeds or Implicit Borrowing
- Use of Upfront Payment

EaaS – The Tax Lawyer's View

Tax Value

- Cost of Defeasing Existing Bonds
- Taxable vs. Tax-Exempt Borrowing Costs Going Forward
- Tax Credit Value and IRA Direct Pay
- Value of Depreciation Deductions

QUESTIONS