

The Commercial Law Development Program *Presents* *Public-Private Partnerships (PPP) Webinar Series*

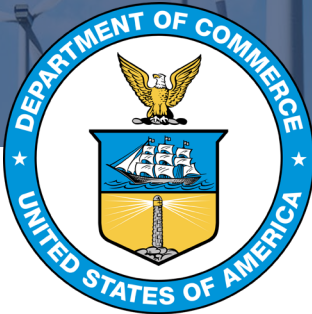


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PPP and Climate Risks

Part 3 - Management of Climate Risks Using PPPs



Today's Presenters



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Today's Agenda

- Overview of Climate Action PPP Development
- Project Development (Identification & Feasibility)
- Procurement and Contracting
- Financing and Funding Plan



Overview of Climate Action PPPs



Climate PPP Project Categories

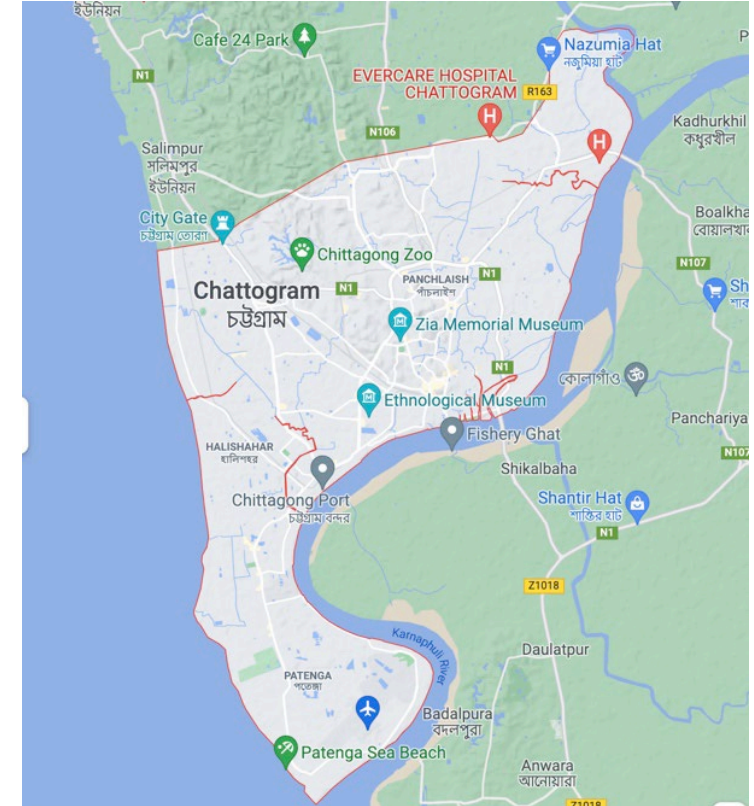
- **‘Climate resilience’** relates to the ability of a system to withstand, bounce back, or absorb the impacts of climate variability and change. Resilience is a quality or characteristic of a system.
- **‘Adaptation’** to climate change refers to an adjustment in a system in response to current or expected climate impacts. Adaptations can both be aimed at avoiding negative consequences or seizing positive opportunities from climate change.



Hypothetical Climate PPP

Coastal Port- Chittagong, Bangladesh

- Critical Port City and second largest city in Bangladesh
- Severe & Increased Flooding from:
 - Sea Level Rise;
 - Storm Surge;
 - Land Subsidence;
 - Increased Precipitation
- Limited Capacity to Deal with the problem effectively multiple gov't entities, lack of funding, complexity

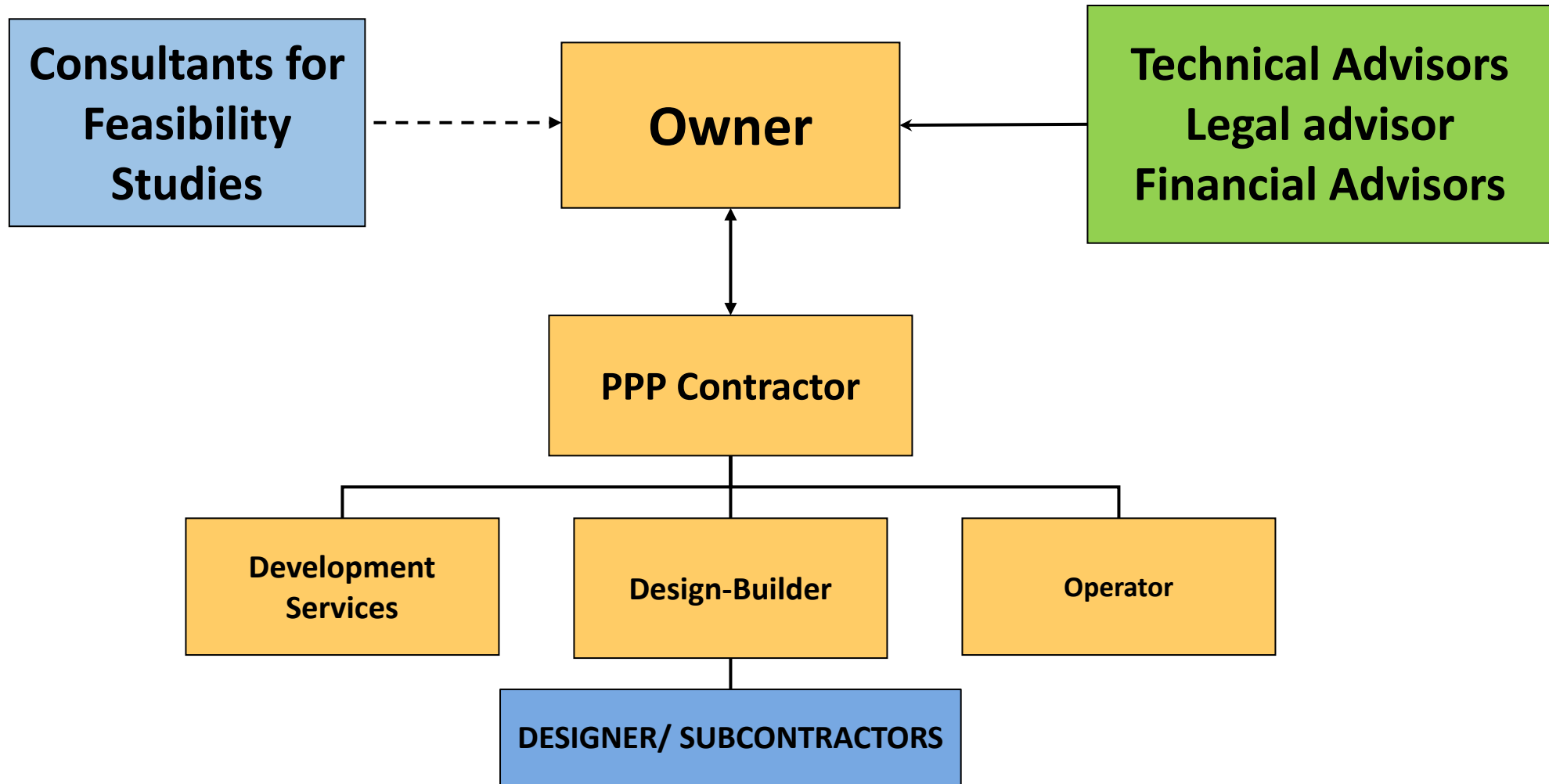


Potential Scope for Chittagong Climate Action PPP

- Levees along 30 miles as perimeter barrier around City
- Storm Surge Protection (combination Green and Gray infrastructure)
- Canal flood gates and dredging
- Storm water management (retention structures and pumping stations)
- Water, Power and Transportation System Protections



PPP Structure & Need for Good Advisors



Project Development








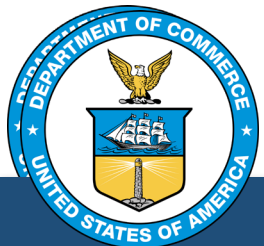
Feasibility Analysis - Checking Project Viability & Risk Mitigation

- Pre-Feasibility and Feasibility studies are part of the project development cycle. Each country has its own policies on how to proceed with this.
- The **pre-feasibility study** is a step to determine whether the projects identified are potentially viable and whether the additional time and resources should be invested.
- A **feasibility study** takes that project a step further to look at how to mitigate risk and issues identified in the pre-feasibility stage and to determine viability.



Feasibility Analyses Assess 5 Key Elements

	Pre-Feasibility	Feasibility
 Technical Solution and Cost	Develop technical solution and rough order of magnitude	Refine technical solution and finalize cost estimates
 Funding and Financing	Identify funding gaps and identify potential funding sources	Determine affordability and secure funding sources
 Policy, Legal, and Regulatory	Survey regulations and laws and identify gaps and project concerns	Review likelihood of required changes to laws and regulations for project success
 Environmental and Social	Identify E&S “red flags” and develop mitigation strategy	Conduct environmental and social impact assessment and mitigation strategy
 Commercial Structuring and Delivery Models	Assess delivery model options, including PPPs	Select delivery model and develop key commercial terms



Technical Feasibility Studies - create confidence & attract higher-end developers

- Conduct schematic/**preliminary design** and preliminary cost estimates
- More detailed analysis of fuel risks (if any), availability, price and escalation
- Review **labor availability**, risk of strikes, use of foreign labor
- Review availability of **utilities** - water, power and communications
- Conduct more detailed analysis of **site, access, and subsurface conditions**
- Analysis of potential for flood and other **adverse weather risk issues**

Coastal Flooding - Key Technical Questions:

- What should be the design criteria for sea level rise and storm surge?
- What should be the design criteria for storm intensity, sea level rise and future 500-year storm?
- What are the **technology** choices for both green and/or grey storm surge protection?
- What are the **key risks** regarding, **site conditions, access and force majeure**?

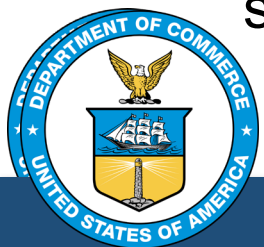


FUNDING - At the Feasibility stage, the focus is on affordability of the project

- Identify funding sources, which can include user-fees, tax/budget revenue, MDB lending, gas taxes, utilities payment, etc.
- Compare cost and funding profiles over time to identify gaps in funding and then identify financing options to meet those gaps
- Objective is to understand the affordability and begin securing funding sources
- Evaluated rough-order-of-magnitude estimate with potential funding sources

Climate Action Case Study– Key Funding Questions:

- What are the potential funding sources for the project?
- How much can the beneficiaries afford to pay for flood mitigation, particularly the business owners, Port and shippers?
- What is the estimated level of government contribution?
- Does the funding profile match the project cost profile?
- What financing sources are available to match funding with costs?



Policy & Legal – Enabling Legislation

- Key to choosing delivery approach
- Analysis of applicable laws and regulations which can affect structure and incentives for private participation
- Is there flexibility in procurement laws - “Best Value Procurement” is critical (price and other factors)
- Rules for transparency & fairness
- Anti-corruption laws and practice



Government needs a strategy to address E&S ISSUES that will deter international investors

- Review environmental and social requirements, and the need for an environmental and social impact assessment (ESIA)
- For international financing, governments should consider aligning the ESIA and management plans with the World Bank Envir. & Social Framework (ESF), IFC Performance Standards, etc.

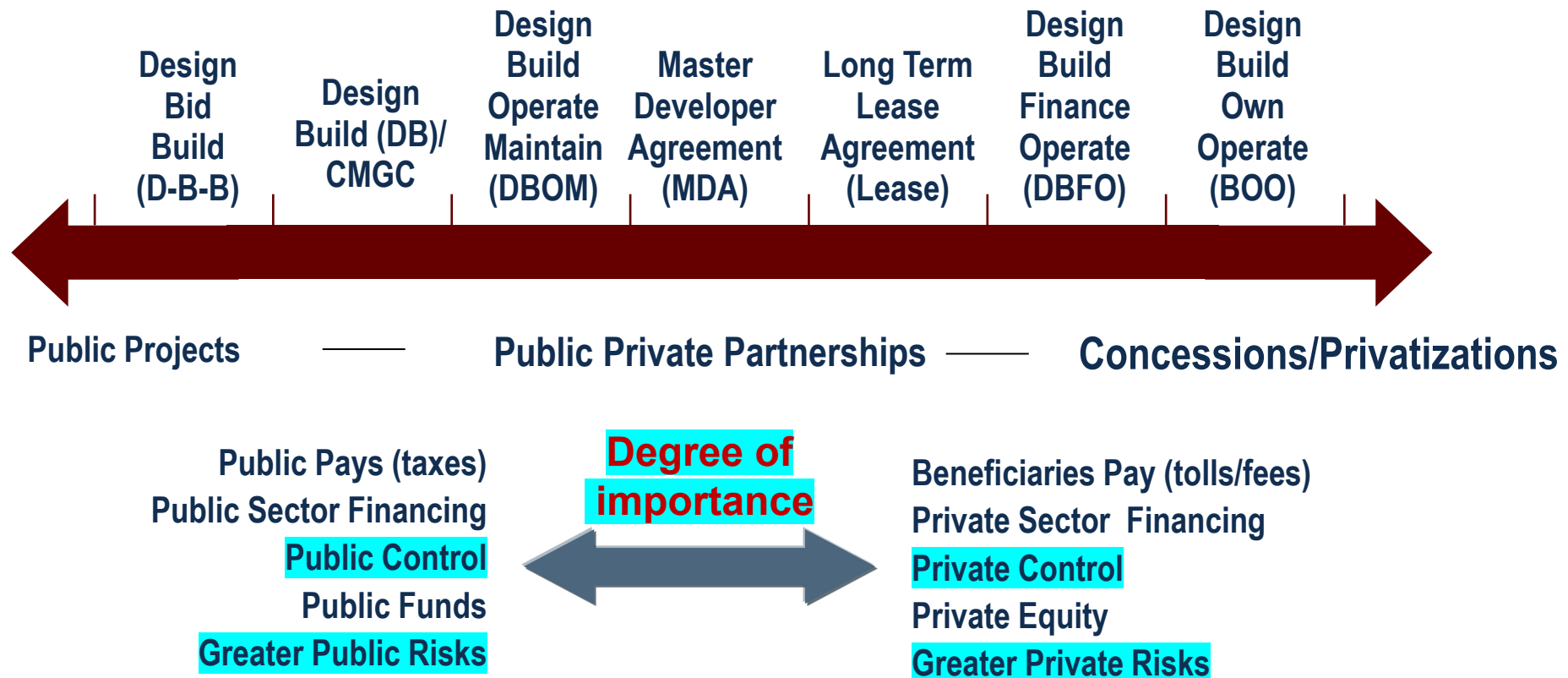
Climate Action Case Study– Key E&S Questions:

- What are key E&S risks and benefits and impacts to underserved communities that will be of concern to lenders?
- What are the local/national regulations for permitting, land acquisition, and resettlement?
- What kind of public consultations are pertinent



Commercial - Selection of Project Delivery

Analysis of Alternatives



Procurement and Contracting



Procurement-- Competitive Tender Objectives and Requirements

- **The Objective** – Attraction and Competitive Selection of Government's Private Partner
- **Local Law and DFI Requirements:** transparency, fairness, competition and value
- **Parameters/Scope of Project**— what duties and risks are being shifted to the private partner and what will remain a duty and risk of the Government **around climate issues**
- **Standard Risk Allocation and Reasonable Risk-Adjusted Returns and Clarity as to Climate Events** = essential
 - Concession Agreement and other Project Documents will be appended to the Tender Documents
 - Source of funding to pay private parties once the project is complete and operational must be clear from the outset



Procurement – Getting Ready– Pre-Procurement Phase

- **Advisors**—international advisers with specific track record of successes
- **Legal and regulatory environment** and consensus building
- **Anticipate and mobilize/leverage resources** for different project phases including sources of funding to pay and reward private partner and resources for managing the implementation of project as well as partnership
- **Value planning, design development, risk mitigation and realistic KPIs**
- **Active management and consultations with potential strategic partners** around risk allocation and commercial proposition —especially for climate and resilience projects given the unique risks involved
- **Form of PPP agreement** to be decided (DBFOM etc)—and attached to the tender documents
- **Scope of the PPP** to be decided, including climate and resilience features and residual risks and their relation to pricing
- **Type of procurement process to be decided**—one-stage, two-stage, iterative, consultative or competitive dialogue



PPP Contractual Framework

- The parties
- The contracts
- Why the contracts matter
- Risk allocation under the contracts including Force Majeure Events and Climate Events
- Rights and remedies (compensation) of the parties



The Parties to the PPP Contracts

- **The Public Sector (i.e. Government)--"Owner":**

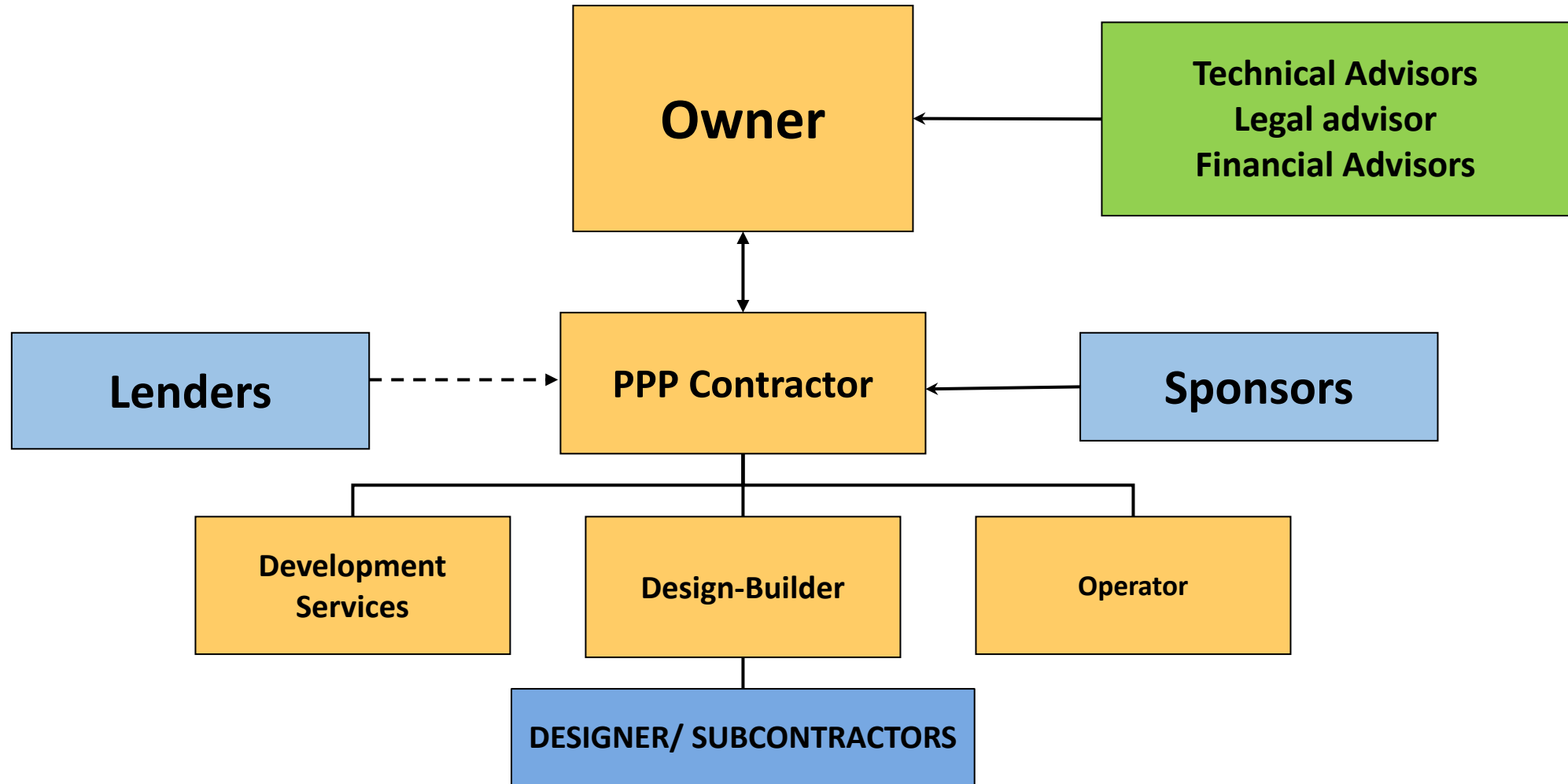
- identifies needed public service
- defines service **outputs/outcomes including around climate and resilience targets**
- agrees long-term concession for the service
- payment made against performance measures
- imposes regulatory regime

- **The Private Sector– "Builder/Operator":**

- provides service;
- **designs**, builds, finances, operates and maintains the service and the assets
- must meet key performance indicators **including climate and resilience objectives or risks lower revenues**
- operates within regulated environment including "public interest" requirements



PPP Contractual Framework



Why the PPP Contracts Matter-Allocation of Risks and Regulation of Revenue Stream

- **Government Perspective**
- **Private Partner Perspective**
- **Investors' and Lenders' Perspectives**
- **Risk Allocation**—generally according to which party is best able or willing to control/manage or assume the risk
- **Climate Risks**—present new challenges to the standard risk allocation



Standard Risk Allocation—Lenders’ Risk Appetite

Concessionaire /Lender Risks	Government/Owner Risks
Commercial and Technical Risks <ul style="list-style-type: none">• Agreed scope of work around climate and resilience deliverables• Localized labor strikes	Controlled by Government/Owner <ul style="list-style-type: none">• Government Defaults/Changes in Government• Repudiation of PPP Contract• Changes in Law or Regulations especially around pricing and taxes and increasingly around climate change directives and commitments• Permits• Foreign Exchange• Expropriation• Government credit or liquidity issues
Natural Risks (Insurable?) <ul style="list-style-type: none">• “Acts of God”, including lightning, fire, earthquakes, volcanic activity, floods, droughts, storms, cyclones, typhoons, tornadoes• Epidemics, pandemics?	Not Controlled by Government/Owner <ul style="list-style-type: none">• War, sabotage, terrorism• Country-wide labor strikes• Resource risk?• Environmental and climate risks beyond those specifically allocated to Concessionaire and not insurable• Epidemics, pandemics?

Force Majeure Events

- **Principle**

- The PPP contracts are the means by which risks and rewards are allocated among parties—generally according to which party is best able or willing to control/manage or assume the risk
- Flexibility of contractual structure and parties' commitment to the partnership is critical to accommodate inevitable challenges
- **Climate events are testing the standard FME regime because they may be foreseeable and avoidable.** Pressure to develop a more deliberate sharing of risk through conditions, covenants or indemnity provisions and not to rely on standard FME and Change in Law risk allocation

- **Consequences of Force Majeure**

- Extension of time for Concessionaire (and therefore for EPC/DB Contractor and Operator) to perform their obligations if Force Majeure causes delay.
- Increase to price in some instances if Force Majeure causes increased costs to EPC/DB Contractor or Operator.
- Termination if extended Force Majeure.
- Right to be Indemnified (bought out) in certain cases of termination for Force Majeure Events



PPP Contracts– Climate and Resilience Risk and Insurance or other Coverage

- PPP Contracts must each clearly delineate the parameters and technical specifications of the **climate and resilience** features Concessionaire is responsible to address.
- Everything else is a Force Majeure Event **or delineated Climate Events**, with relief for private parties and Government bearing the risk, **or specific risk sharing and treatment for Climate Events**.
- Insurability is a key risk mitigant– **there are increasing types of insurance on the market now for climate events (including catastrophic events) and adaptability and resilience projects**.
- Uninsured events—risks are typically borne by Government (or shared) if insurance or other risk mitigation products and instruments are unavailable



Concession or PPP Contract

Key provisions regarding climate change and resilience

- Government grants exclusive right for an agreed term to private company to design, build and operate the project. [Climate and resilience obligations of Concessionaire must be set out in detail.](#)
- Provides for financial and other relief for private partner in case of Force Majeure Events and compensation for Government defaults, Political Force Majeure Events, Changes of Law, [Climate Events beyond those allocated to the Concessionaire](#)
- Government must typically provide credit support backing its commercial obligations and those of SOE intermediaries that are party to a PPP contract (e.g., independent port authority). [Particularly important where there is no apparent source of revenues.](#)
- Government must be able to terminate for poor performance (failure of private partner to deliver or operate the promised quality project on time and budget)



Engineering, Procurement and Construction (EPC)/Design Build (DB) Contract

Key provisions regarding climate change and resilience

- EPC/DB Contractor agrees to design, engineer and build the climate and resilience “plant” for a specified, fixed price (subject to certain adjustments, e.g., Force Majeure or party defaults).
- EPC Contract [prescribes the climate and resilience assets](#) that are to be built with specificity. [Needs to satisfy requirements of Concession Agreement so that there is limited risk of Concessionaire being in breach of the Concession Agreement.](#)
- Completion Tests (requirements, procedures, etc.) spelled out in EPC/DB Contract—key is to ensure plant successfully delivers [operational and reliable climate change and resilience assets that will be able to generate revenues \(in the form of availability payments\)](#) expected by investors and lenders (and to preserve Concession Agreement).
- Provides for [parallel financial and other relief for EPC/DB Contractor in case of Force Majeure Events](#) and compensation for counterparty default and certain Force Majeure Events, [including Climate Events beyond those allocated to or shared by the Concessionaire](#)



Commercial Contract (e.g., Operations & Maintenance Agreement)

Key provisions regarding climate change and resilience

- Concessionaire agrees to operate and maintain the [climate and resilience project assets to meet detailed industry standards](#)
- Government agrees to pay for the O&M if it meets the contractual requirements at an agreed price.
 - Clarity on Concessionaire's duties and risks assumed—especially around climate events and resilience
 - Project's revenue stream
 - Government ability to pay
 - PRI or Partial Risk Guarantees may be required
 - Affordability if relevant
- [Force Majeure Relief and Termination Rights to match other PPP Contracts](#)



Termination and Compensation

Termination Rights

- Government Default
- Concessionaire Default
- Extended Natural Force Majeure
- Political Force Majeure not compensated to Concessionaire or invalidating PPP Contracts
- Change in Law not compensated to Concessionaire
- Climate Events not allocated to or shared by Concessionaire



O&M - Termination/Indemnification Post-Completion

Events	Who can Terminate?	Obligation of Government Owner to buy the plant	Termination Payment from Government Owner	Payments for Concessionaire between Event and Termination	Other
Government Owner Default	Concessionaire	Yes	Debt and Equity and RoE (definitions of ROE vary)	Full Availability Payments based on what would have been possible	
Concessionaire Default	Government Owner	Usually	FMV (at least equal to Debt)	Availability Payments with agreed reductions for failure to meet specified performance criteria	
Political FM (and Climate Events beyond those specifically allocated to Concessionaire) affecting Concessionaire	Concessionaire	Yes	Debt and Equity and RoE	Full Availability Payments	



PPP - Termination Chart, Post-Completion

Events	Who can Terminate?	Obligation of Government Owner to buy the plant	Termination Payment from Government Owner	Payments for the Concessionaire between Event and Termination	Other
PFME affecting Government Owner	Concessionaire (dovetailing with period during which Government Owner must make deemed Availability Payments)	Yes	Debt and Equity and ROE	Full Availability Payments	
Natural FME affecting Government Owner	Concessionaire after period of time during which Government Owner must make deemed Availability Payments	Yes, reduced by insurance proceeds	Debt and Equity, sometimes also some ROE	Availability Payments reduced by deficient performance (insurance to be carefully designed to cover most Natural FME)	
All other FM affecting Company	After extended period and inability to restore if required, Off-taker or both	Not necessarily but Govt might opt to buy—flexibility on price	Flexible or no	Reduced or no Capacity and Energy Complemented by Insurance	Agreement to rebuild
Change of Law	Company	Yes	Debt and Equity and RoE	Capacity—sometimes Energy too	Usually leads to adjustment of capacity payment rather than termination if CIL only results in increased costs (vs. invalidation)



Finance and Funding Plan



Overview of Climate Finance

- **Climate Finance:** *financial resources* invested in *mitigation* and *adaptation* measures through financial instruments including **loans, grants** and **guarantees**, which have helped *leverage additional private finance*
- **Sources:** public, private & intermediaries
- **Instruments:** range of tools, mechanisms and modalities
- **Uses:** mitigation vs. adaptation



Private Sources & Intermediaries

- **Project Developers:** national/regional utilities, independent power producers, renewable energy
- **Corporate Actors:** manufacturers, corporate end-users
- **Private Households:** family level economic entities, high net worth individuals
- **Institutional Investors:** insurance companies, pension funds, endowments
- **Commercial Financial Institutions**
- **Private Equity, Venture Capital & Infrastructure Funds**



Public Sources & Intermediaries

- **Ministries & Government Agencies**

- Bilateral Aid agencies
- Export Credit Agencies
- UN institutions

National strategies
& policy frameworks
conducive to
investment

- **Development Finance Institutions**

- Multilateral Development Banks (MDB)
- National Development Banks (NDB)
- Bilateral Financial Institutions (BFI)

Technical
assistance, financial
instruments &
specialized
knowledge

- **Climate Funds**

- Global Environment Facility (GEF)
- Adaptation Fund (AF)
- Climate Investment Funds (CIF)
- Green Climate Fund (GCF)

Grants & loans at
concessional terms
(finite lifetime,
sectoral focus)



Uses of Climate Financing

91%
mitigation

- Renewable energy generation
- Energy efficiency in industry and buildings
- Sustainable transport
- AFOLU & livestock management

7%
adaptation

- Water supply management
- Climate-resilient infrastructure
- Coastal protection
- Disaster risk reduction
- AFOLU & natural resource management



Climate Financing Instruments to Leverage Private Sector Investment

1. Policy Incentives:

- Feed-in tariffs
- Tradeable certificates
- Tax incentives
- Clean energy subsidies

2. Risk Management:

- Guarantees
- Insurance policies
- Contract-based instruments

3. Grants:

- Cash transfers
- In-kind support

4. Low-cost project debt:

- Concessional loans

5. Capital Instruments at commercial terms:

- Project-level market rate debt
- Project-level equity
- Balance sheet financing

Address investor-specific needs

Align public and private interests

Enable scaled-up investments



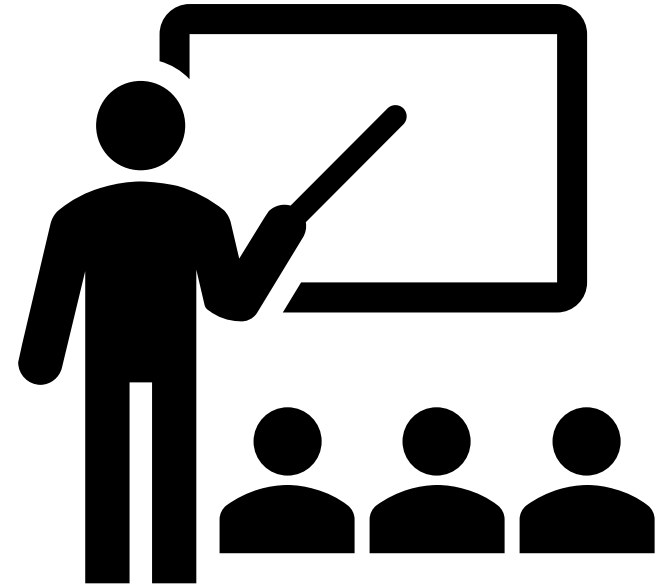
Summary and Conclusions

- Climate Action PPPs during Feasibility Phase Need To Figure Out The Design Criteria for the Uncertain Future
- Once the Design Criteria is Agreed to the Parties Must Conduct a “Realistic Risk Allocation” Strategy to Attract Developers/Investors
- The Procurement Stage is Vitally Important in Setting the Stage For Success
- Innovative Financing is Required to Put Together a Financing Plan that is Bankable
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Previous Webinars

- **Project Finance**
- **Screening Tools**
- **Pre-Feasibility Studies**
- **Pre-Qualification and Evaluation**
- **Sector Specific: Pre-Feasibility Studies**
- **Business Case Development**
- **Unsolicited Proposals**
- **Financial Modeling**
- **Life Cycle Costs Analysis**
- **Project Agreements**
- **Financing Documents**
- **Commercial Contracts**



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PPP: Project Finance Registration

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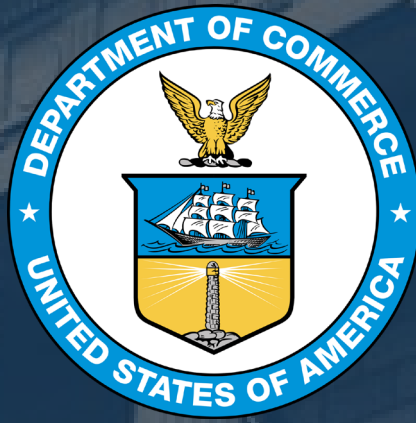
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