Keppel Integrated Engineering

Presentation to

Distinguished Delegates of MFA-PUB ASEAN Bilateral Programme

31 Oct 2012



Presentation Agenda

- Keppel Group – Company Profile
- PPP - A typical illustration for DBOO/BOT Scheme
- Legal and Commercial Frameworks
- PPP : Challenges and Learning Points



Keppel Integrated Engineering

Keppel Integrated Engineering

Keppel Corporation

Offshore & Marine | Infrastructure | Property | Investments







K1 VENTURES m1

Keppel Integrated Engineering

Keppel Seghers

(Environmental Engineering arm of KIE)

- A wholly-owned subsidiary of Keppel Corporation Ltd.
- A leading providers of comprehensive environmental solutions - consultancy, engineering, technology, construction and O&M of plants.
- Advanced technology solutions for a wide spectrum of environmental issues (solid waste, sludge, water & wastewater).
- KSES' proven Waste-to-Energy and water technologies has been implemented in more than 100 projects in Europe, America and Asia Pacific.

Synergising Keppel's Technology and Project Delivery Experience








Year of Award	2004	2005	2006	2007	2008	2009	2010
	Keppel Seghers Ulu Pandan NEWater Plant	Keppel Seghers Tuas WTE plant (800T/day)	Domestic Solid Waste Management Centre (Qatar) (1500T/day)	Doha North Sewage Treatment Works	Senoko WTE plant (2100T/day)	Greater Manchester Energy- from- Waste (EfW) Plant Runcorn I	Runcorn II
	DBOO		EPC + O&M		Acquisition + O&M		EPC

- **Proven track record for both local and international markets since 2002**
- **Experienced project staff and over 600 experienced project execution personnel readily available for deployment**



One-Stop Service - Keppel Seghers' Extensive Track Record

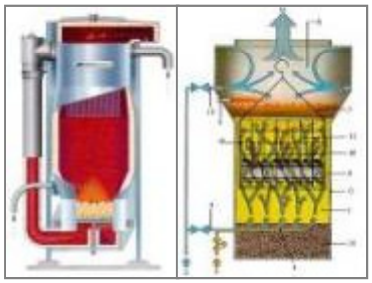
Thermal:

Over 300 references Globally

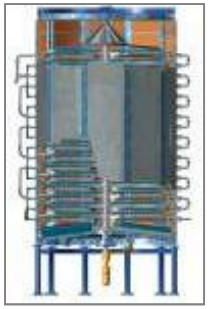
Waste-to-Energy + Air Pollution



Fluidised-bed



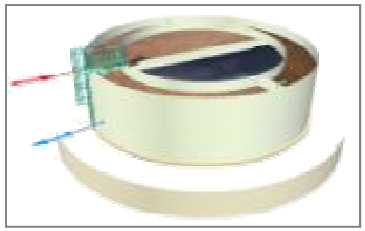
Dryer-pelletiser



Water:

Over 350 References

Biological treatment



UNITANK®

Membrane technology



POTABLOC™
NEWATER
MEMSTILL®



UNIBRANE™

Key Features of a Typical DBOO/BOT Scheme

Project Services / Structure

- Client buys services for incineration of refuse, instead of owning an incineration plant
- Take-or-Pay payment structure with guaranteed refuse amount, to make the project bankable

Project Financing

- Long term contract : 20 - 30 years contract from commencement of plant operation
- Private sector financing : both equity and debt financing for the scheme provided by the private sector

Key Features of a Typical DBOO/BOT Scheme

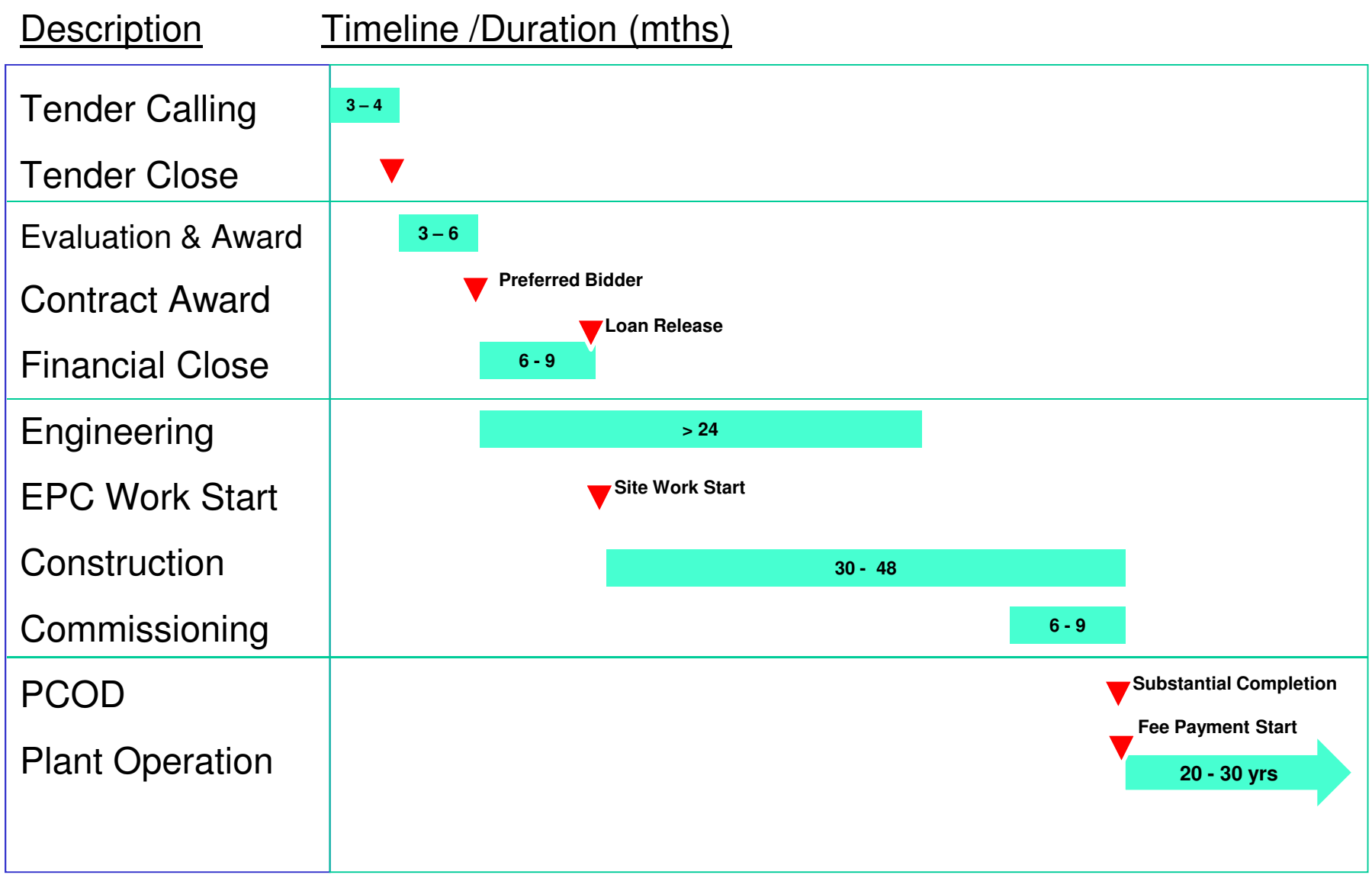
Measurable Performance

- Clear and measurable outcomes specified for performance :
  - Quantity : Available Plant Capacity; Contracted Unit of Electricity Export
  - Quality : water quality to meet contractual requirements ; flue gas to meet emission standards
  - Plant service level : EHS, turnaround time

Non-Conformance

- Penalty imposed for non-conformance of quality and quantity requirements

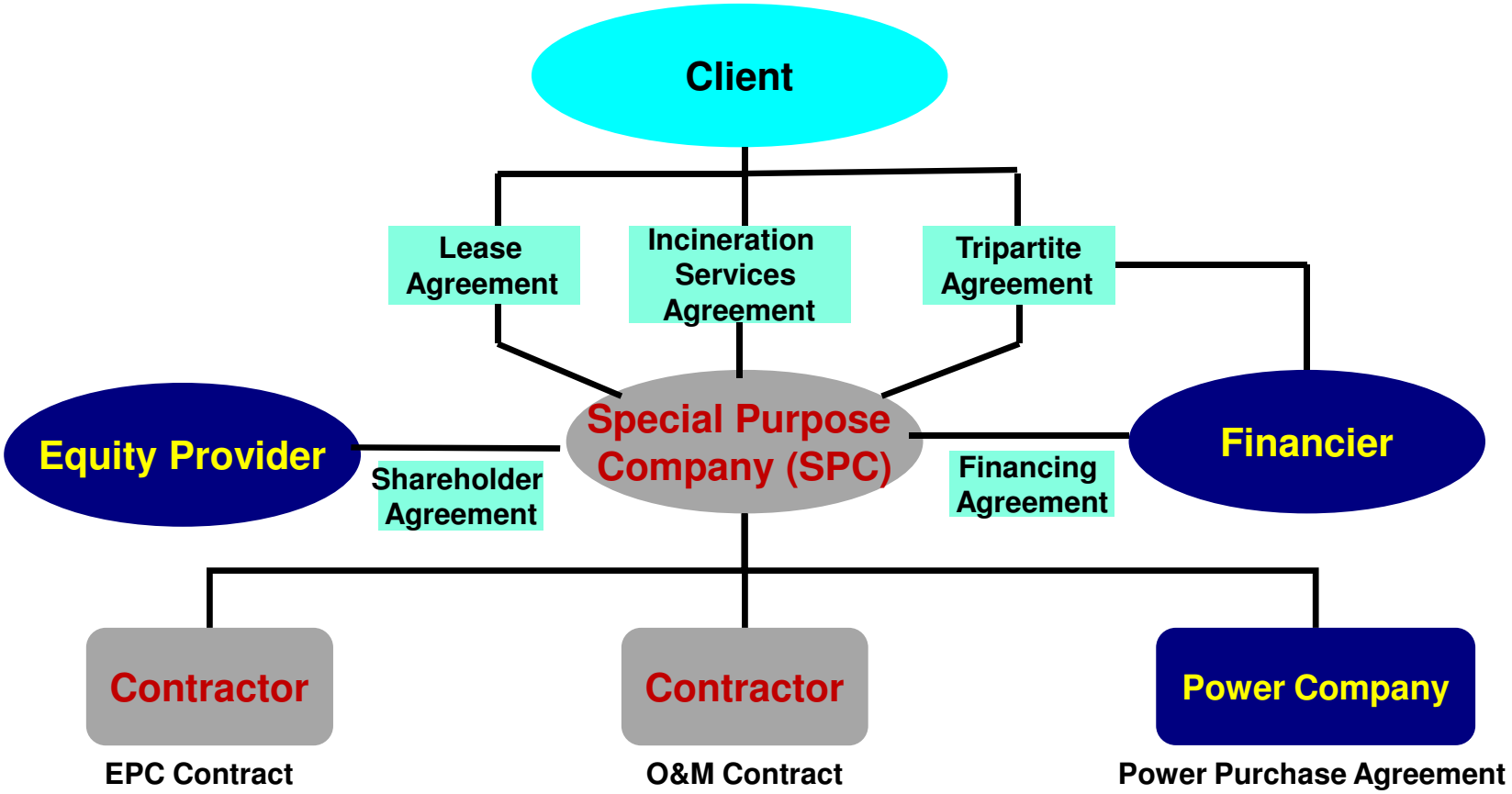
Project Timelines for a Typical DBOO/BOT Scheme



Legal Framework



Typical DBOO/BOT Structure for Waste-to-Energy Project



- Project structure : similar to International PPP projects
- Related agreements : step-in agreement, third party agreements.
- Project bankability : tenure, tariff adjustment, transparency, risk exposure.

NEWater Agreement / Incineration Services Agreement

NEWater Agreement /ISA : Main Agreement

- Main agreement which form the foundation for the fulfillment of contractual obligations by both parties (Client and BOT Contractor)
- Provides for the delivery of refuse incineration service by the BOT contractor to the Client, based on agreed prices, terms and conditions

ISA : Main Agreement

- Contains technical, commercial and legal terms and conditions for refuse incineration services to be rendered

Tripartite Agreement

Tripartite Agreement

- Signed between SPC, Financier and Client
- Financier reserves the right to step-in and take over the NEWater/WTE plant and /or its operation when the SPC is in default.

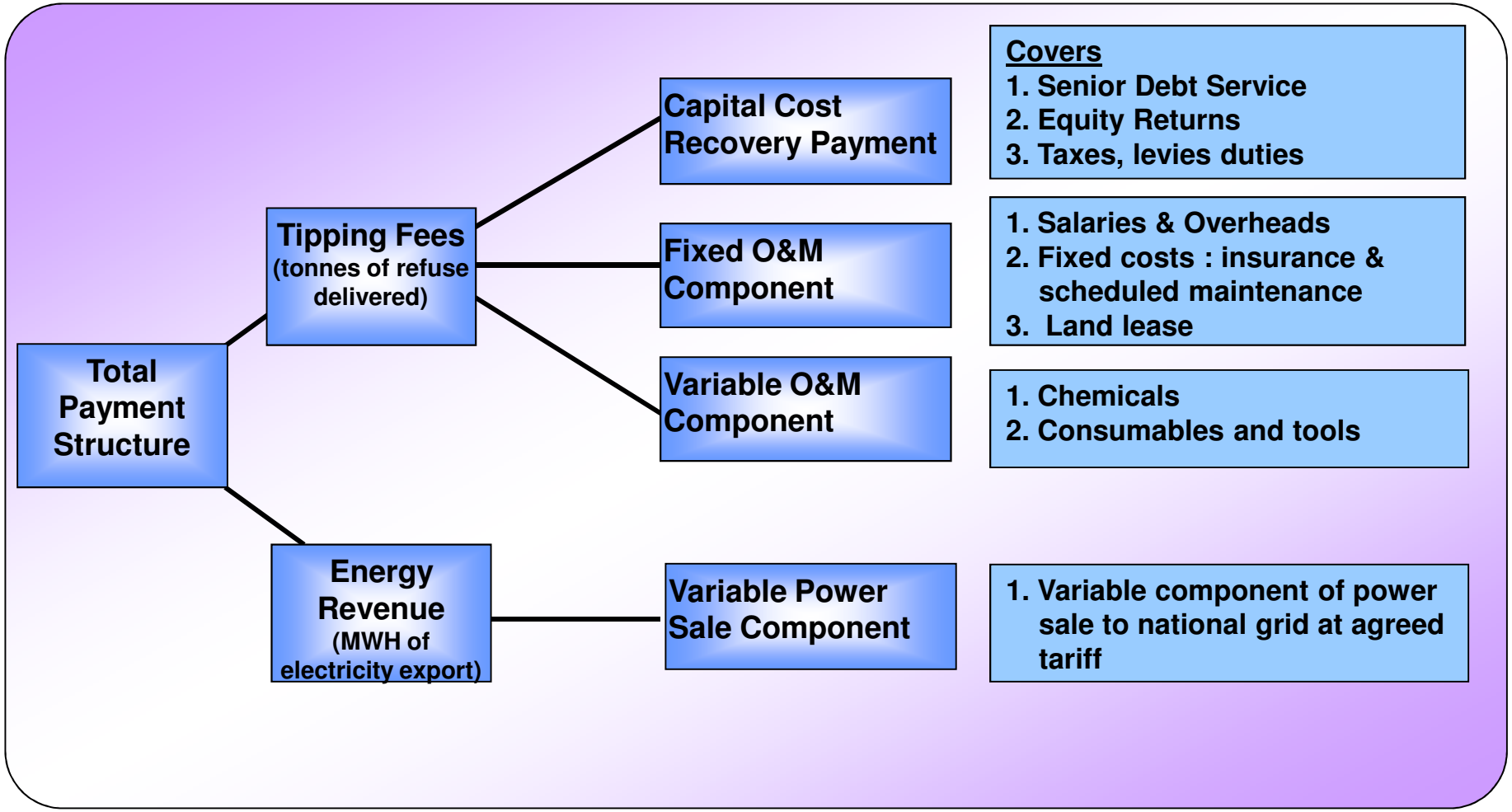
Tripartite Agreement

- Client may at any time, step in if in the reasonable opinion of the Client, there is a real and immediate risk that the SPC's ability to render service is affected due to an insolvency event.

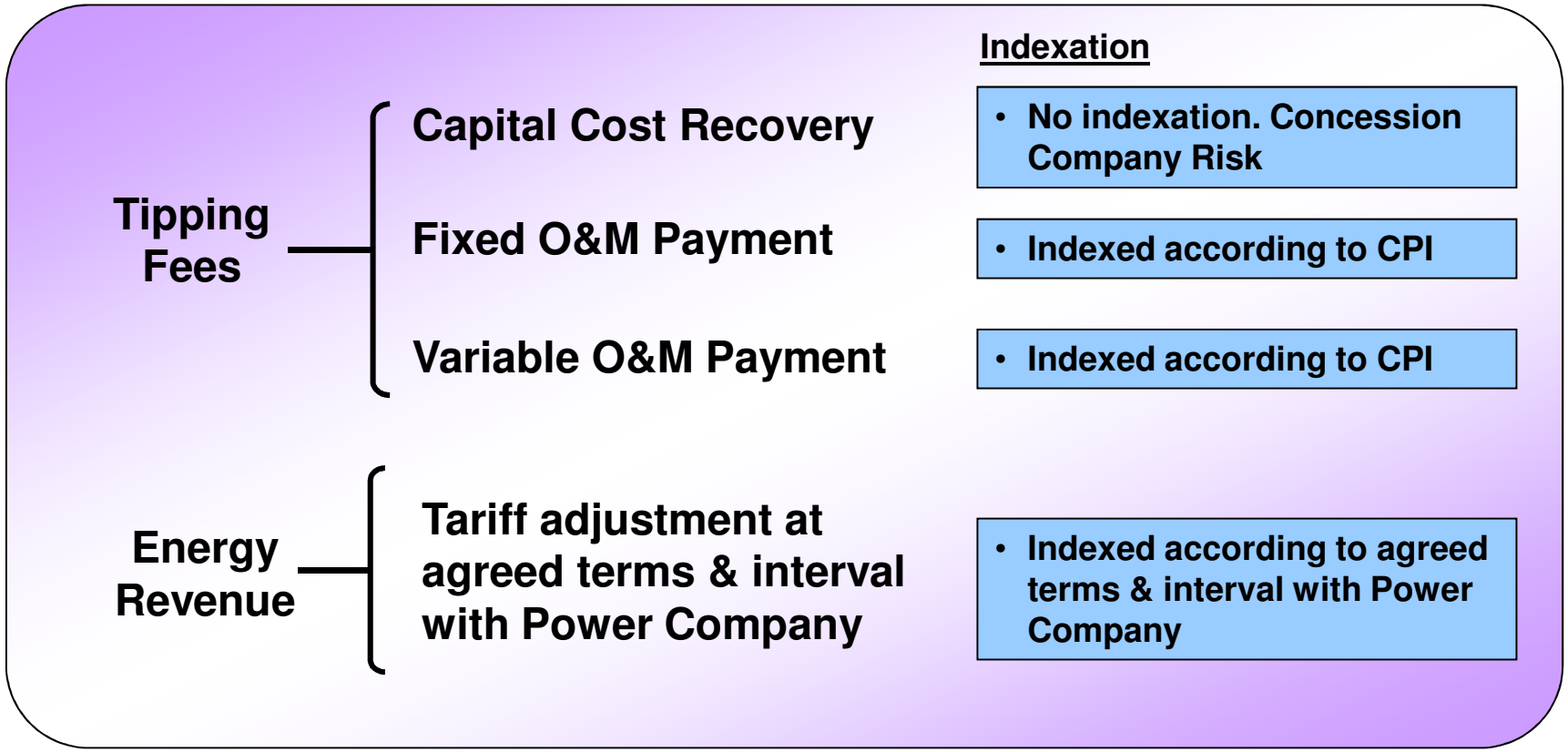
Commercial Framework



Typical Revenue Structure for Waste-to-Energy Project



Typical Tariff Indexation for Waste-to-Energy Project



Key Commercial Risks

Risk Allocation / Tariff Adjustment

- Equitable Risk Allocation
- Fixed + Variable Tariff Structure
- Partial indexation on tariff
- Contractual review at agreed interval

Non-Conformance/ Penalty

- Refuse quality and quantity
- Plant service level
- Appropriate construction and operations insurances

PPP : Challenges and Learning Points



PPP Challenges

Financial Exposure

- Capital Investments sizeable and long term horizon
- Built-in Indexation for tariff adjustment, but mismatch in timing possible : Inflation Index; Fuel oil price index
- Foreign Exchange exposure (long term)

Long-Term Risk Exposure

- Long term (20 - 30 years) performance commitment with penalty clauses
- However, supplier warranty are short term, hence mismatch in warranty/guarantee
- Mismatch in exposure: Keppel risk exposure much higher than individual exposure (LD's) from subcontractors/suppliers which are typically limited to size of contract at best
- Mismatch in foreign exchange exposure (for foreign suppliers)

PPP Challenges

Management of Client-Contractor Relationship

- Multi-parties (Procurer, Public and Service Provider)
  - Fostering of good relationship to encourage improvements and quality of services provided
  - Active role of Client

Continuous monitoring of quality relationship and management process

- Levels of Communications (Strategic, Business and Operational)

Flexibility in Contracts

- Mechanism needs to be in place for change in scope and basis for payment without need for:
  - tariff re-negotiation,
  - new financial modeling,
  - contract change, or
  - supplemental agreements

PPP Learning Points

Legal Aspect : Possible Divestment of Shareholding

- Within the contract tenure, the private sector partner may seek approval from the client to adjust the shareholding structure so as to raise capital and improve its debt holdings.
- The request requires a variation to the NEWater Agreement/ ISA. Client needs to be supportive and due process takes time.

Legal Aspect : Possible Divestment of Shareholding

- The divestment exercise highlights that variation to PPP contract agreements can be complex, time consuming and costly than conventional contracts undertaken by public agency due to multitude of parties involved.

PPP Learning Points

Financial /Commercial Aspects

- Choice of payment structure important for viability of project.
- Take-Or-Pay structure makes the project bankable. Lenders have no security for debt service recovery if there is no minimum "off-take" obligation.

Financial/ Commercial Aspects

- Project Tenure : should be long enough for capital recovery by the private sector .
- PPP project based on international practice for similar utility projects: two-part payment structure of fixed payment (available incineration capacity) and variable payment (consumables) adopted.

PPP Learning Points

Specialist Expert for BOT Project

- Implementation of PPP project can be complex and requires specialist financial, legal, and contracts expertise that are not readily available in the public sector.
- To assist in the implementation of the PPP project, Singapore public agencies have engaged international consultants with relevant experience

Proactive Management & Close Partnership

- Singapore public agencies have taken a proactive management and close partnership approach in managing the PPP projects.
- Such partnership approach is championed at the top level of both the client and the private sector partner in reaching a win-win implementation of the project. Such close working relations have so far ensured the smooth delivery of the PPP project



Thank You

Q&A