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Risk Analysis Of Desalination Concessions Contracts

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- Introduction
  - 1.1.- Contract solutions
  - 1.2.- How a Concession Works
  - 1.3.- Pros and Cons of Concession Contracts
- Architecture of Concessional Contracts
  - 2.1.- Goals
  - 2.2.- The Agents
  - 2.3.- The Risks and their allocation
- Conclusions

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1.- Introduction

1.1- Contract solutions

Client Decision:

I need a Plant → Usually Private Clients willing to own the Plant and operate it to incorporate the water to a production process or to sell the water to third parties.

I need the Water → Usually Public Authority willing to secure the water supply to the population.

I NEED A PLANT:

The contractor must provide Design and construction of the plant.

EPC contract + O&M contract are required.

Exhaustive supervision during construction from Client.

Exhaustive supervision during operation phase from Client.

I NEED THE WATER:

Contractor must produce the water.

Services Contract.

Supervision on the quality and quantity of the water.

Less construction and operation supervision from Client.

This solution is suitable for a Project Finance solution.

EPC solution:

- Client needs a design (own, hired to a third party or included in the Turn Key Contract)
- Client needs to look for the EPC Contractor
- Client needs a solid construction supervision team. Client is the owner of the plant
- Client needs a O&M Contractor. O&M Contractor performance is a risk for the Client. Solid O&M supervision is needed from Client
- High risk of responsibilities allocation among EPC and O&M Contractors while transferring the plant
- Investment is reflected in Client accounting
- Client needs to manage several Contracts

Concession Solution:

- A single Contract including design, construction and operation responsibilities
- No lack of responsibilities among Constructor and O&M operator: only one contractor
- Easy to finance through a Project Finance scheme, with a Take or Pay commitment from the Client
- No investment is charged on the Client Accounting

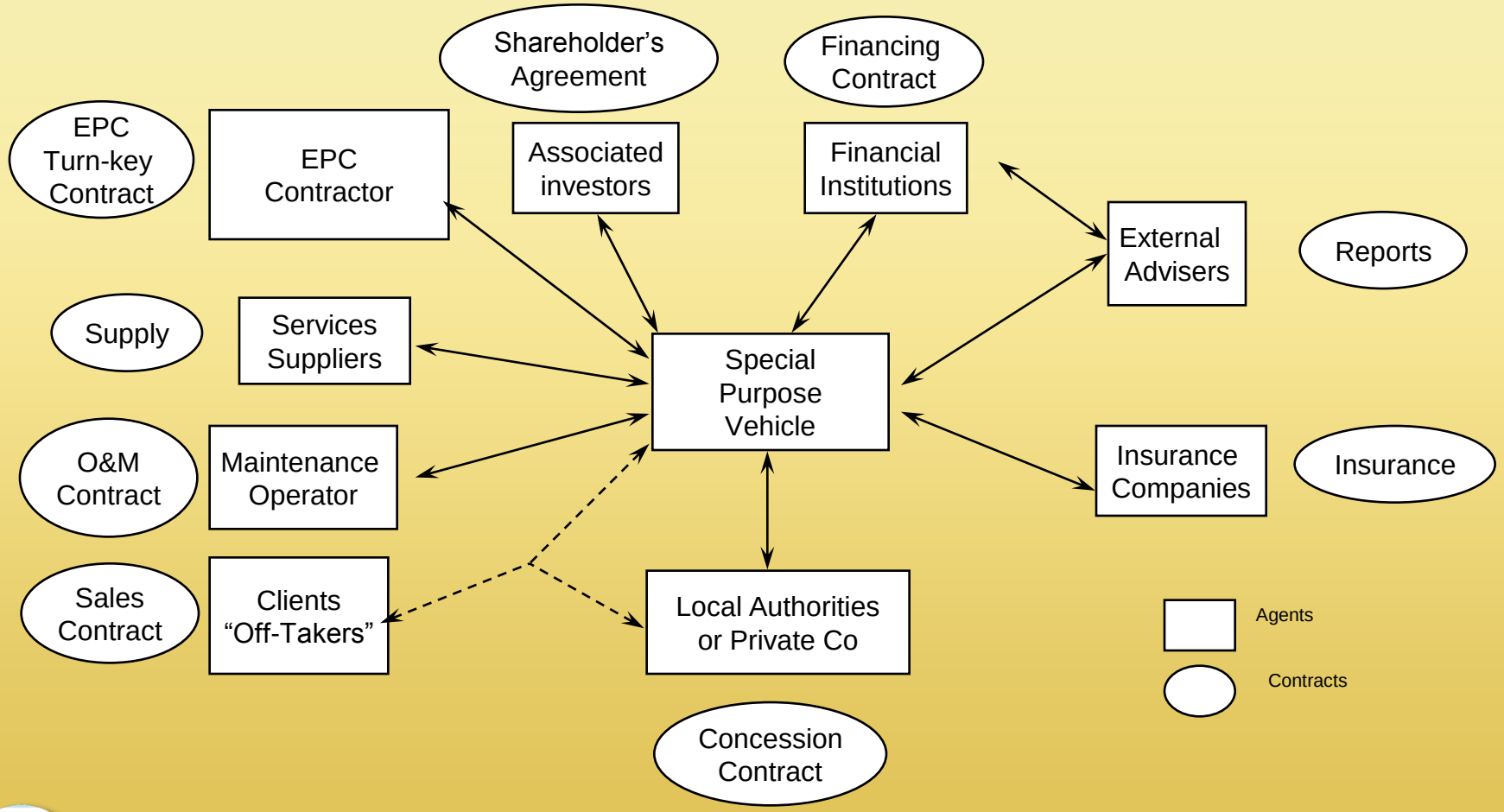
1.- Introduction

1.2.- How a Concession Works

Client and Contractor commitments:

CONTRACTOR	CLIENT
Assumes construction risks (Delay, Costs, Performance)	Secure permits to operate
Secures production costs	Commits the payment of the fixed costs independently of production (Take or Pay)
Secures Quality, Quantity and Availability of the water	Assumes developer risks
Secures Financing and Equity Founding for the Project	

Contractual Scheme



1.- Introduction

1.3.- Pros and Cons of Concession Contracts

PROS	CONS
Only one contract, only one interlocutor	Long delays for due diligence
Less own staff needed to manage the project	Take or Pay commitment
Technology is hired and not bought or inside developed	Financial costs are included in the tariff
Financing is the problem of the contractor	
Tariffs are stable and predictable	
Technical risks on the Contractor Side	
It is not an investment for the Client	

2.- Architecture of Concession Contract

2.1.- Goals

Supply Guarantee

Primary

Lower Possible Tariff

Get the best technology And Updates

Secondly

Get the knowhow - training

2.- Architecture of Concession Contract

2.2.- The Agents

- **The Client**: usually a Public Authority. He is the end user of the service and remunerates the Concessionaire through a Concession Contract.
- **The Concessionaire** (usually SPV): manages the construction and operation of the facility and sells the water to the Client. Secures the Equity founding through their shareholders and arrange the required financing.
- **The Construction Company** (EPC): assume the construction of the facility.
- **The Operation and Maintenance Company** (O&M): deals with the operation of the facility.
- **Insurance Companies**.
- **Banks**: secures the financing of the project in the debt portion.
- **External Advisors**: advising the Financial Institution or the SPV in all aspects related to the project.

2.- Architecture of Concession Contract

2.3.- The Risks and their allocation

Assign the risk to the agent who has the best capacity to control it

Assign the risk to the agent who has highest incentives to control it

2.- Architecture of Concession Contract

2.3.- The Risks and their allocation

POLITICAL RISK:

RISK	MITIGATION	AGENT TO ASSUME
Change in Law (Taxes, water quality, permits)	Solid legal frame work. Pass through provisions	Client
Nationalization (land, plant)	Direct Agreements	Client
Social Aspects (no acceptance of the tariff, technology refusal)	Market Analysis. Marketing efforts	Client

2.- Architecture of Concession Contract

2.3.- The Risks and their allocation

FINANCIAL RISK:

RISK	MITIGATION	AGENT TO ASSUME
Change in Loan conditions (interest rate, term)	Fixed loan conditions. Insurances	SPV
Debt repayment can't be met	Solid financial plan. Equity injection	SPV
Inflation during construction	Price Escalation Clauses	Client
Currency exchange rates	Costs and payments in same currency. Insurances. Pass through provisions	SPV / Client / Insurances

2.- Architecture of Concession Contract

2.3.- The Risks and their allocation

CONSTRUCTION RISK:

RISK	MITIGATION	AGENT TO ASSUME
Inadecuate Design	Adequate EPC Contractor	EPC
Unsuitable Location	Solid feasability study	Client / SPV
Delay in Construction	Adequate EPC Contractor and EPC Contract	EPC
Supply and Machinery failure	Adequate EPC Contractor and EPC Contract	EPC
Shut down and Start up costs	Adequate production planning	SPV
Construction Costs	Adequate EPC Contractor and EPC Contract	EPC

2.- Architecture of Concession Contract

2.3.- The Risks and their allocation

OPERATION RISK:

RISK	MITIGATION	AGENT TO ASSUME
Electric Costs Increase	Pass Through Clauses. Electricity Long term Contract	Client / SPV
Uncertainty about required production flow	Adecuate needs study. Take or Pay Clauses	Client
Ineficient Operation Management	“Turn Key” O&M Contract	O&M
Construction Defects	Adequate EPC Contractor and EPC Contract	EPC
Labour relations	Adequate O&M Management	O&M
Moral Risk	Optimal Contract Strategy	Client / SPV

3.- Conclusions

If the risk is supported by more than one Agent, **moral risk can corrupt the project**, especially if each Agent is taken individually the cost to cover the risk.

For all risks impossible to be controlled or eliminated, the best way to act is to **diversify** them among the actors and find a way to agree common actions to mitigate the exposure.

Assign the risk to the agent who has the best capacity to control it

Assign the risk to the agent who has highest incentives to control it

"Instable scenarios, and with more uncertainties, are where there are more opportunities for the most effective companies".

Juan Miguel Villar Mir, Club Siglo XXI, Nov 06

Thank you for your atention

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