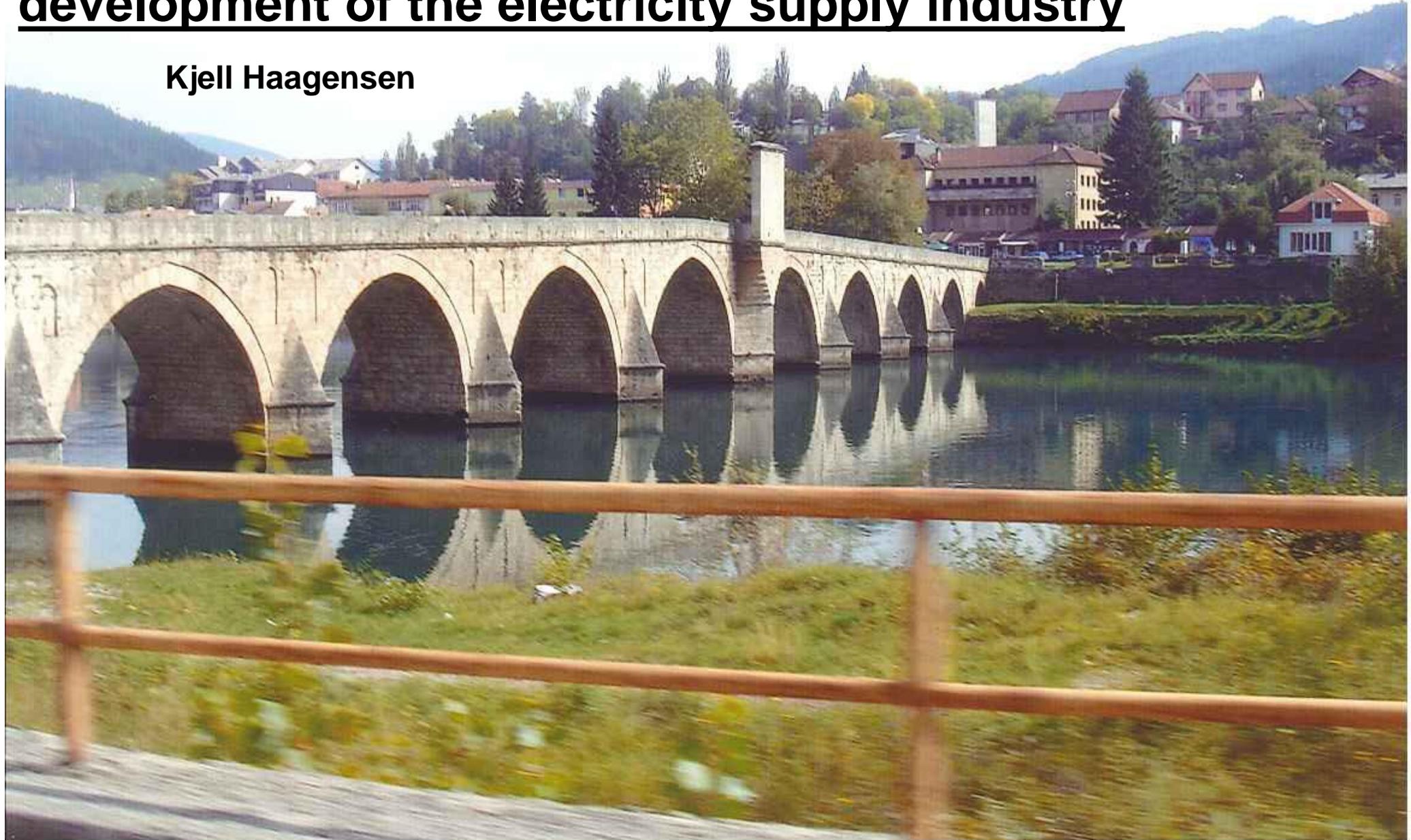


# Funding/ financing as a precondition for the future development of the electricity supply industry

Kjell Haagenen



# Basics

- **We need a feasible project**
- **We need a sponsor/investor**
- **We need financing of the project**
- **We need a PPA**



KAZAKHSTAN

MONGOLIA

UZBEKISTAN

KYRGYZSTAN

GEORGIA

ARMENIA

AZERBAIJAN

TURKMENISTAN

TAJIKISTAN

NORTH KOREA

IRAN

AFGHANISTAN

CHINA

SOUTH KOREA

JAPAN

PAKISTAN

NEPAL

BHUTAN

BANGLADESH

TAIWAN

INDIA

MYANMAR  
(BURMA)

LAOS

HONG KONG

THAILAND

PHILIPPINES

CAMBODIA

VIETNAM

MALDIVES

SRI LANKA

BRUNEI

MALAYSIA

SINGAPORE

INDONESIA

# **Financial solutions**

- **Equity paid by sponsors**
- **Loan from the sponsors**
- **Funding from banks like IFC, ADB or EIB**
- **Funding from commercial banks or investment banks**
- **Funding from domestic investors**
- **Funding from domestic pension funds etc.**
- **Funding from Export Credit institutions**
- **Funding from bonds,**
- **Grants and gifts**

# Definitions

**Feasibility Study**

**Gjennomførbarhets studium**

**EPC:  
Construction**

**Engineering Procurement and**

**IPP:**

**Independent Power Producer**

**EIA:**

**Environmental Impact Assessment**

**PPA**

**Power Purchase Agreement**

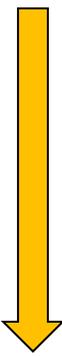
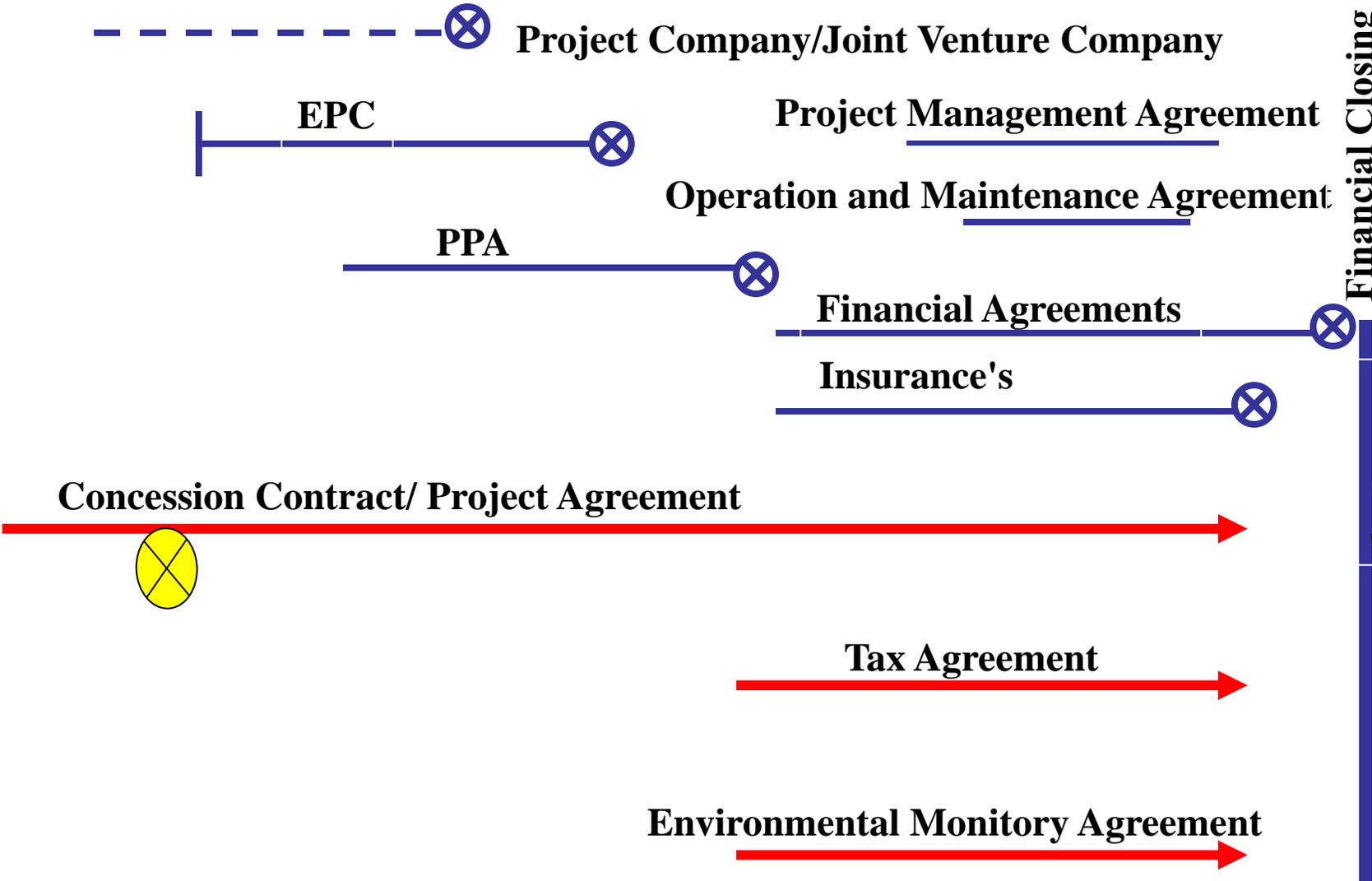
**PA**

**Project Agreement**

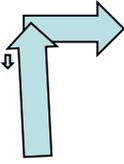
**ESI**

**Electricity Supply Industry**

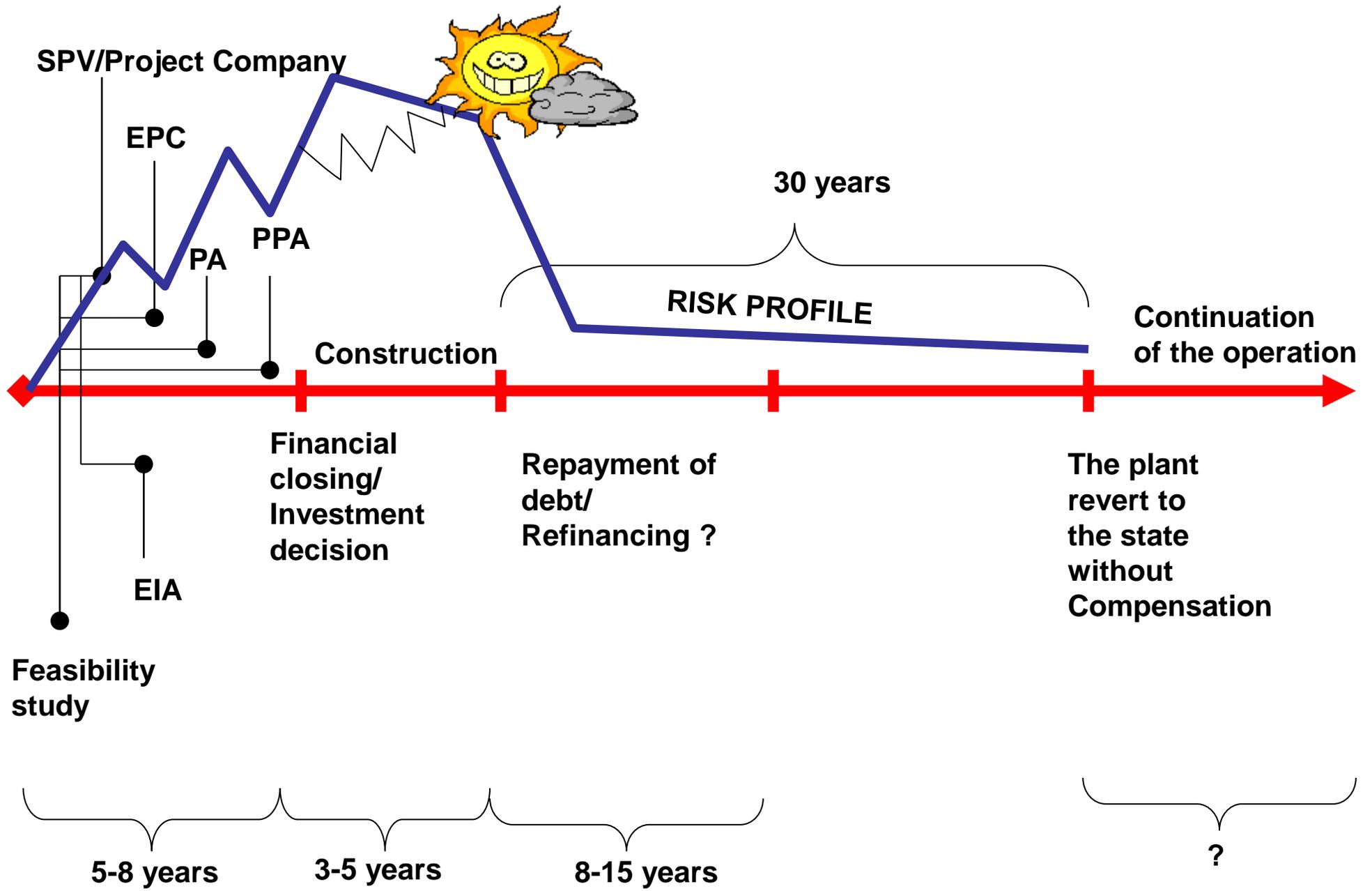
**Feasibility Study** →

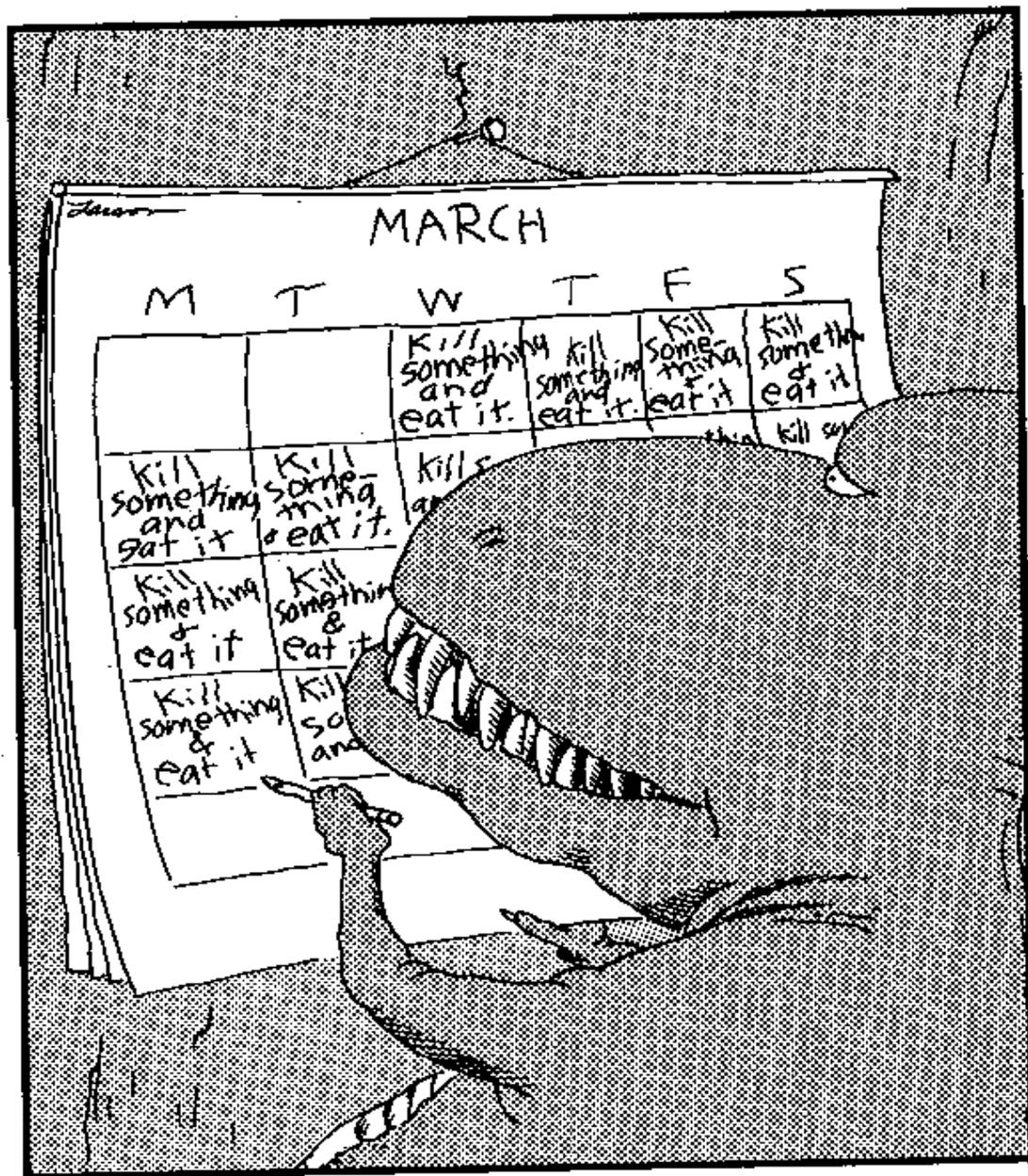


Investment decision



Construction of the plant



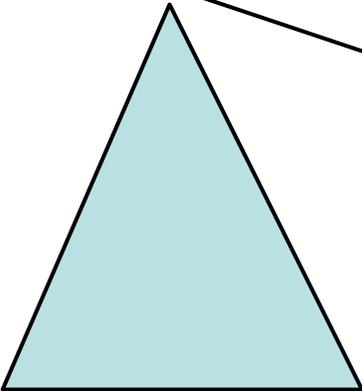


Jurassic calendars

# What is the motivation for foreign investors ?

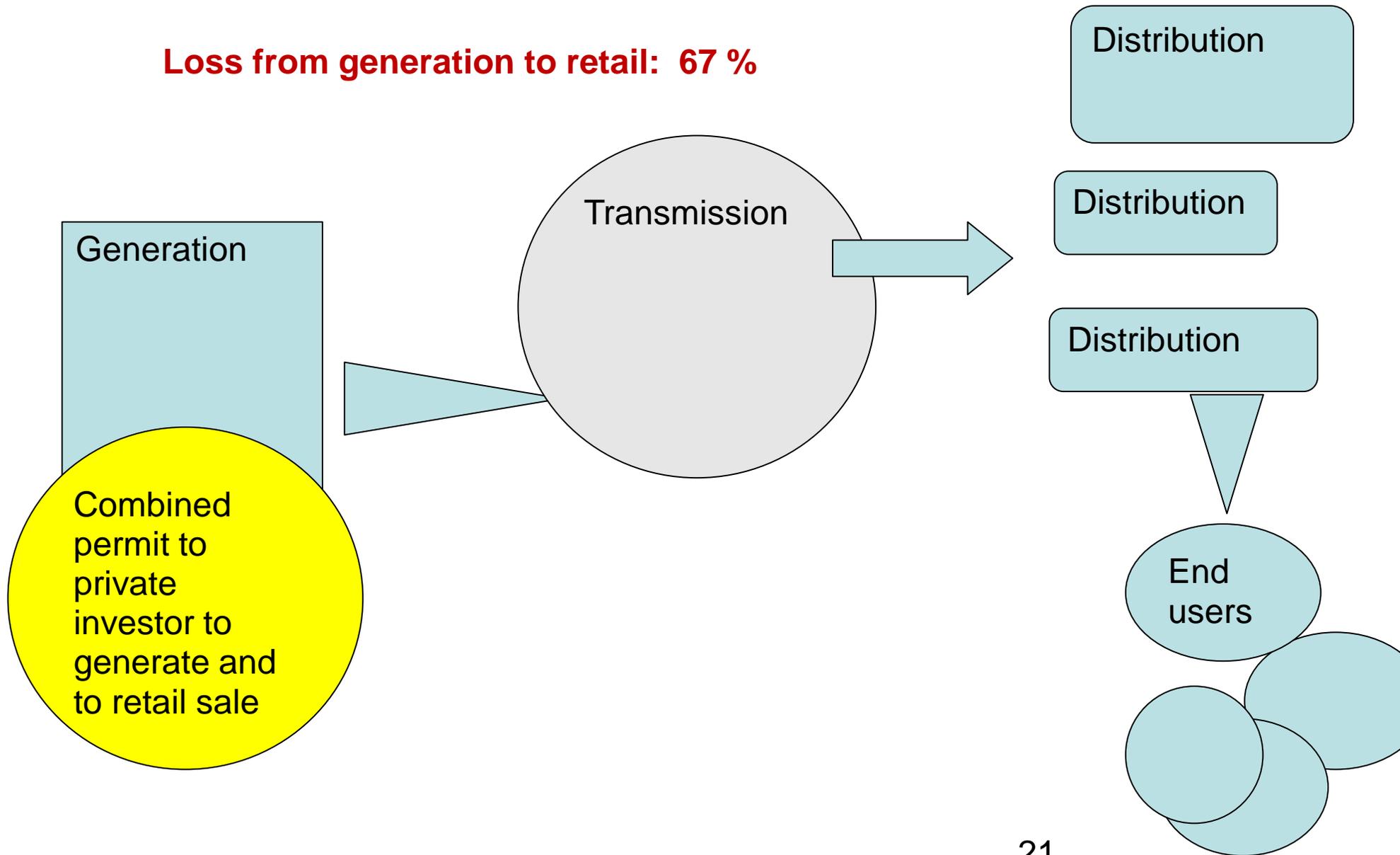
- **The investor will compare with his alternatives:**
  - **Expected profit (rate of return on investments)**
  - **Risk exposure**
  - **The investors assessment of the standard of legal framework and efficiency of the public administration.**
  - **He may choose to make his investment in another country**
  - **The challenge to mix financing by grants with commercial financing.**

High risks  
High IRR – expected profit



Low risks  
Low IRR –  
and expected  
profit

**Loss from generation to retail: 67 %**



# **Benefits of private participation in the electricity market**

- **Access to new resources of financing**
- **Management (and technical) skills**
- **Reduced costs based on competition**

# **Challenges**

- **Relations to the local communities**
- **Harmonize new generation capacity with access to transmission and distribution grids**
- **Costs (and profit) must be related to the tariffs**
- **CO2 – financing support**
- **Environmental issues (sustainable development) meeting international requirements.**
- **Avoid time consuming procedures, inefficiency and incompetence in the administrative process.**

# **Two options for financing**

**Project Financing**

**Corporate Financing or  
Balance Sheet Financing**

**Public Investments**

**Public/ private - Joint  
Venture**

**Private Investments**



**PROJECT FINANCE**

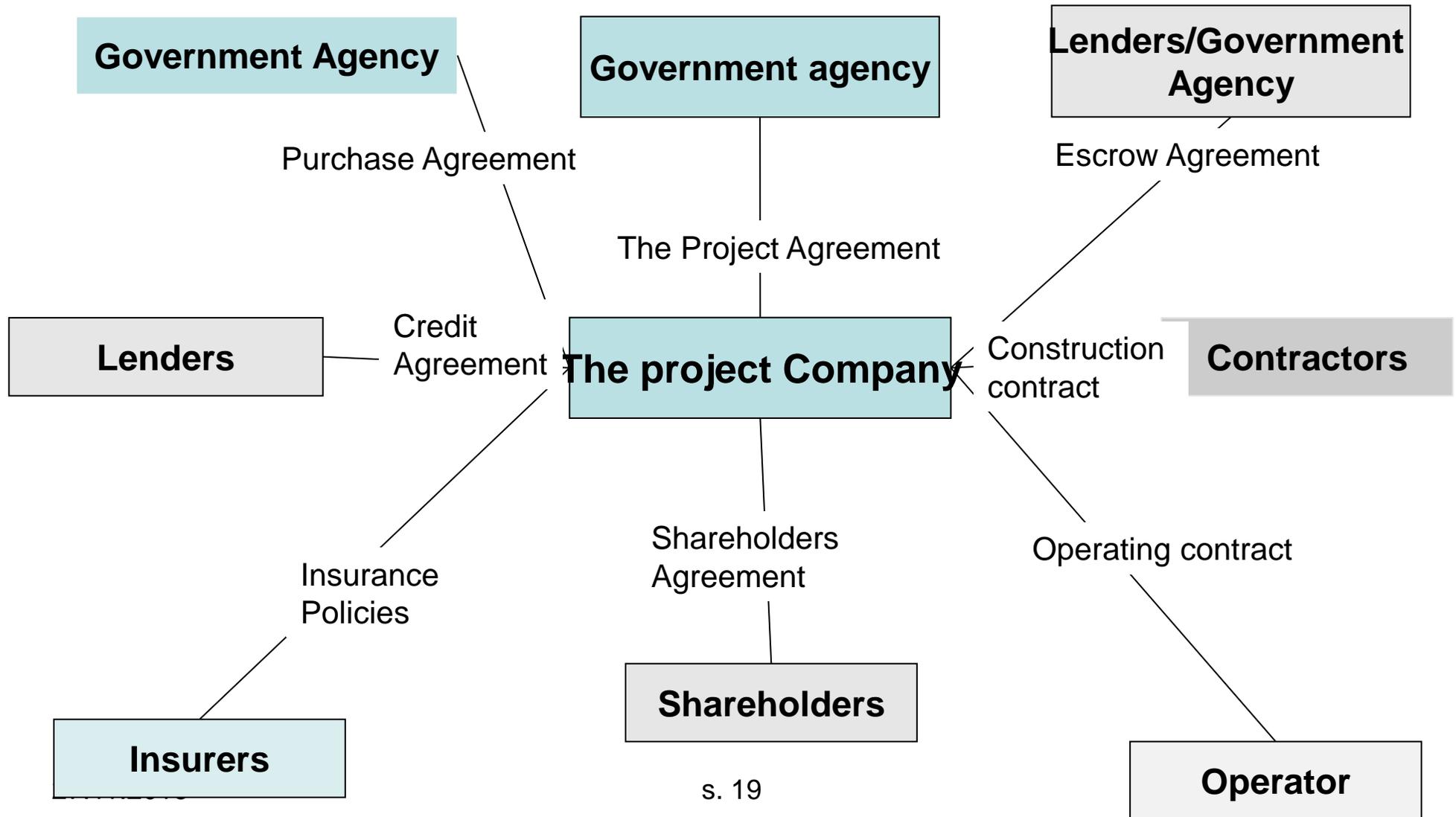
# What is Project Financing ???

**“The financing of the development or exploitation of a natural resource or other assets where the bulk of the financing is to be provided by way of debt and is to be repaid principally out of the assets being financed and their revenues. ”**

# Comparison project financing/balance sheet financing (corporate financing).

- **Peru**
- **The term of the loans ( same)**
- **Interest: PF – Libor plus 4.5 – 5 % - CF Libor plus 2.75 – 3.25 %**
- **Time for negotiations/ execution: PF – 10 months – CF 5 months.**
- **Other expenses: PF – USD 150.000.-.while CF USD 75.000.-**
- **PF additional costs related to:**
  - **International lawyers**
  - **Guarantees/ risk advisor**
  - **Independent Engineer**
  - **EPC contracts**

# The contractual structure of a typical BOOT-project



# BOT/BOOT Structures

## Other Varieties Includes:

- BOT** - build, operate, transfer
- BOOT** - build, own, operate, transfer
- DBFP** - design, build, finance, operate
- FBOOT** - finance, build, own, operate, transfer
- BOO** - build, own, operate
- BOL** - build, operate, lease
- DBOM** - design, build, operate, maintain
- BOD** - build, operate, deliver
- BOOST** - build, own, operate, subsidies, transfer
- BRT** - build, rent, transfer
- LOT** - lease, operate, transfer

## WB paper

- **Seems not to be efficient for larger projects**
- **Long-term PPA may be necessary**
- **Long-term finance instruments will be required**
- **Government has to assume certain project risks**
- **Projects offered for private funding should be adequately prepared in advance by the public sector.**
- **Size of projects – up to 200 – 300 MW and bigger than 30 MW.**

# Basic conditions



# **Basic requirements for success**

- **Legal and regulatory framework**
- **An efficient public administration and administrative procedures**
- **General understanding and acceptance by the stakeholders in the ESI**

**The lenders may want to have a share of the ownership in a project. We will usually find higher expectations related to dividend compared with interest. Accordingly the equity is the most expensive capital, - and a high stake of equity may substantially reduce the profitability of the project.**

# Requirements of the sponsors/lenders

- a) To get a reasonable/acceptable return of the investment**
- b) To take a reasonable part of the risks**
- c) Tax issues (tax treaties or tax agreements/and taxation in sponsors country) likewise depreciation allowed under tax legislation or agreements**
- d) The government must be reasonable (taxes, royalties, custom duties, charges, guarantees)**
- e) Exclusivity – to use of water**
- f) Right of sponsors to export electricity and to keep foreign currency offshore**

## Requirements of the sponsors/lenders (2)

- f) Non-discrimination of the projects**
- g) Availability, convertibility and transferability of foreign exchange**
- h) Change-in-laws – for instance related to environmental laws**
- i) Establishment of supporting infrastructure**
- j) Ability to import equipment and materials required**

## Allowances granted by the Government to the lenders

- **A) Guarantee the creditworthiness of any State-owned entity**
- **B) Approve the financing**
- **C) Guarantee against expropriation (creeping expropriation)**
- **D) In case of termination, the government will grant a replacement concession**
- **E) Government notify the lenders of any alleged or anticipated breaches of the concession**
- **F) Lender shall have the right to step-in and cure**
- **G) State claims shall be subordinated to lenders claim**
- **H) Right to substitute a new company**
- **I) Right to assign the rights and security held by the lenders.**

## **Benefits with an impact on the calculation of the IRR**

- **Free shares to the Government**
- **Supply of free electricity to the Government**
- **Taxes**
- **Shares distributed to the locals living in the area influenced by the project – and to others**
- **Custom**

# The Project Company



# Incorporation of the project company

- **Local (domestic investors)**
- **Sponsors**
- **Joint Ventures**
- **Single purpose companies**
- **Guarantees from mother companies**
- **Conflict of interest – suppliers as shareholders**
- **Minority rights**
- **Equity in kind**
- **Timing - related to risk allocation**

# **To safeguard the rights of the minority owner:**

- **Pre-emptive rights**
- **Tag along**
- **Buy out arrangements**
- **Rules related to super majority**
- **A right for the minority owner to leave**

# **Equity in kind or intangible assets raise following issues:**

- **Finders fee**
- **Unnecessary expenses**
- **Feasibility study – risk of liability**
- **Lenders approval will be required**

# **Different kinds of project entities**

- **A limited liability company**
- **A single purpose company**
- **A joint venture**
- **A partnership**
- **A limited partnership (societe en commandite par actions)**

# **The project company – a joint venture ?**

- **The joint venture is basically a contract between the participants to carry out the specific objects of the project.**
- **It is not necessarily a legal entity itself**
- **In Asia a joint venture arrangement is frequently looked upon as a company.**
- **In other context – people tend to look upon a joint venture as a 50/50 % project (PPP)**

# **Incorporation of a new company**

- **Articles of Incorporation**
- **Articles of Association**
- **Shareholders Agreement**

# The project company

- Shareholding usually reflect the owner structure which are closely linked to the decision making system of the Company
- The head sponsor usually will claim to have full control of the Company, through the Board of the Company and the General Meeting.
- Dividends are closely depending on an efficient management of the Company

# **Means to achieve this.**

- **Shareholders Agreement – versus Articles of Association.**
- **A and B shares, with limited voting rights**
- **Bonds**

# Content of a shareholders agreement (1)

- **The scope and purpose of the company**
- **Management and voting arrangements**
- **Provisions for working capital/ financing**
- **Purchase of the interest of withdrawing participants/ shareholders**
- **Protection of minority shareholders**
- **Restrictions on assignment or other transfer of the participants shares in the project entity**

## Content of a shareholders agreement (2)

- **Voting rules – for instance requiring unanimous consent on certain decisions**
- **Buyout rights**
- **Dissolution and withdrawal**
- **Arbitration**
- **Provisions regarding budgets and programs**
- **Capital calls**

# **Management of the company**

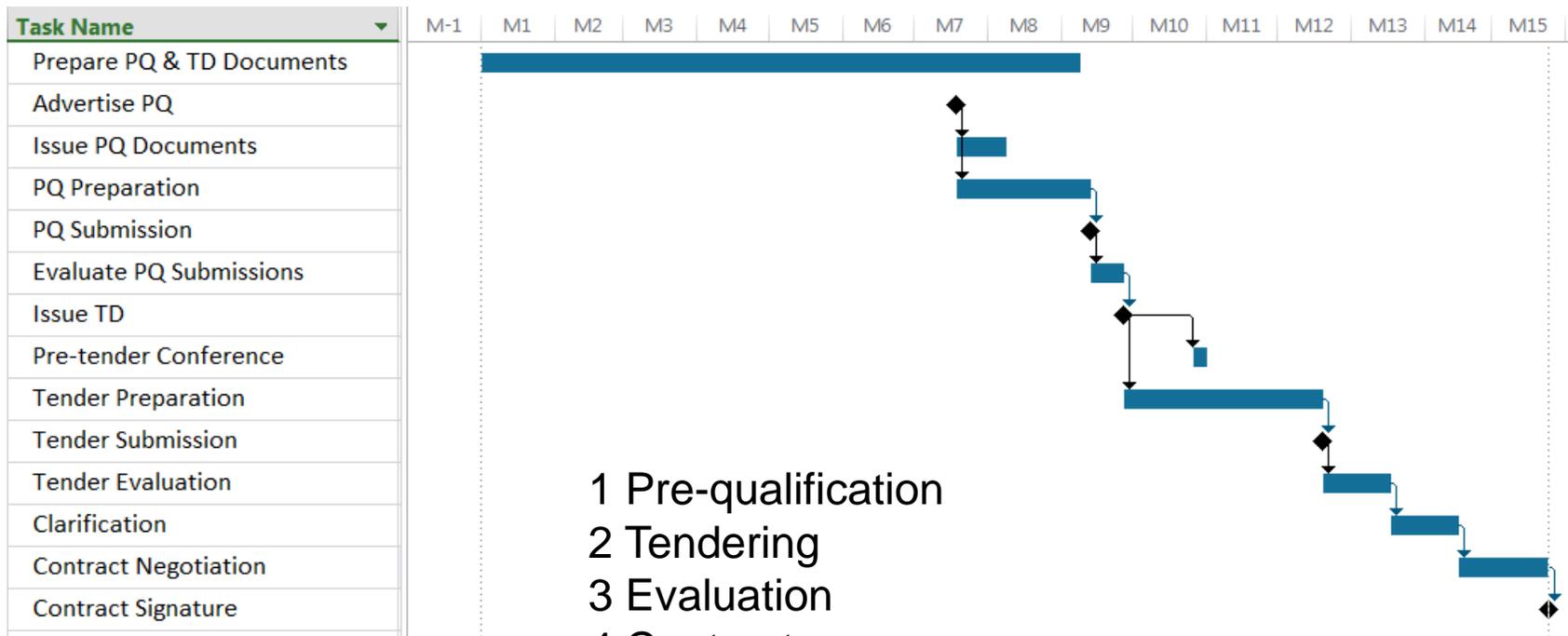
- **General Assembly**
- **The Board**
- **A Board of Directors**
- **Executive Committee**
- **General Manager**
- **Employees or hired advisors/consultants.**

A wide, calm river flows through a deep, narrow canyon. The canyon walls are steep and rocky, with patches of green vegetation. The river is dark blue-grey, reflecting the sky. The sky is overcast and grey. The overall scene is a dramatic natural landscape.

**The EPC contract**

# Procurement

- The process of preparing contracts for implementation



- 1 Pre-qualification
- 2 Tendering
- 3 Evaluation
- 4 Contract negotiations

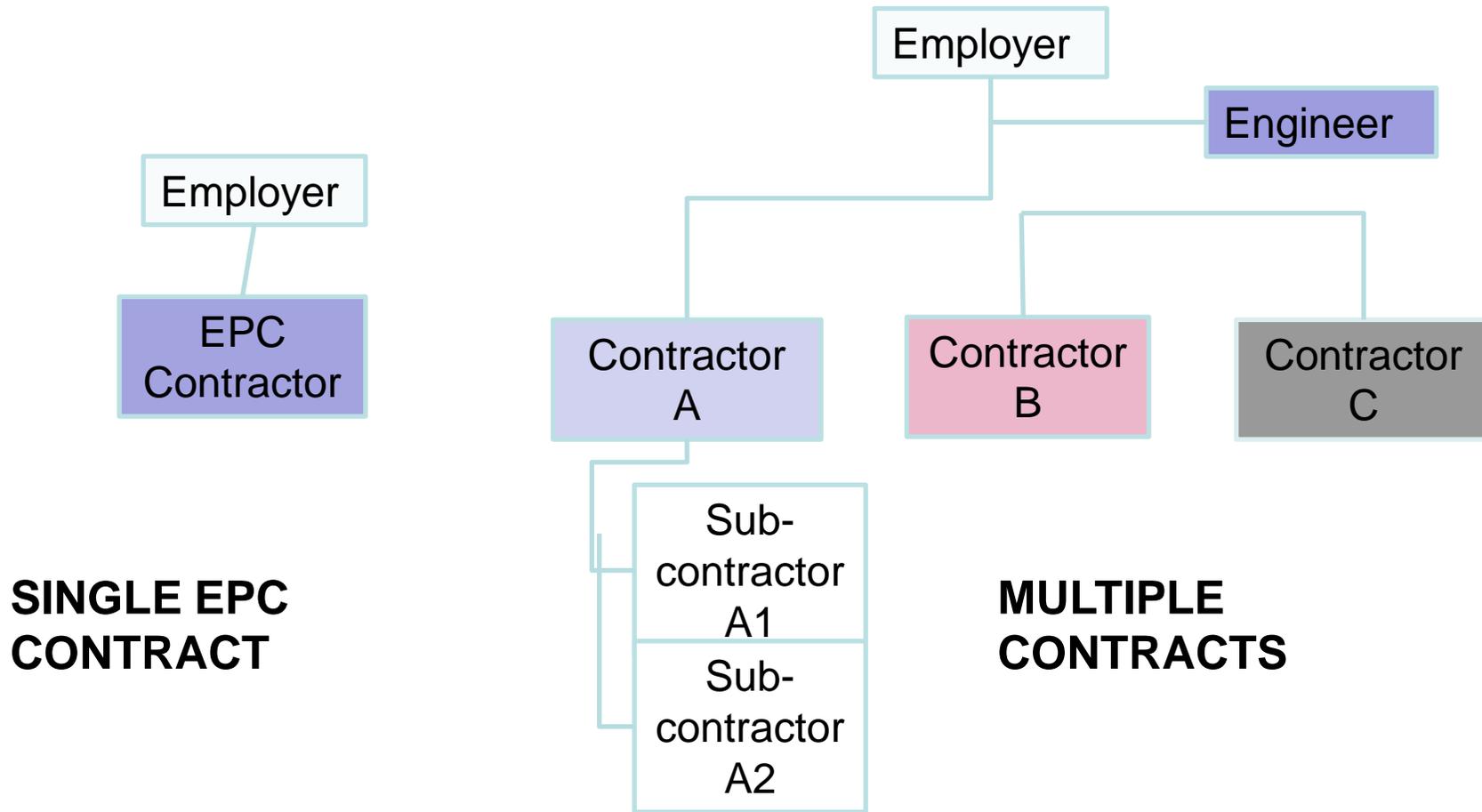
# Pre-Qualification

- Identify suitable companies to be invited for tendering
- Pre-qualification document will state criteria for qualification and which information and documentation Applicants should submit for Employer's review
- Qualification criteria
  - Technical
  - Financial
  - Management
  - Health Safety Environment (HSE)
  - Quality Assurance (QA)
  - Method Statements

# **Tender Documents**

- **Instruction to Tenderers**
- **Conditions of Contract**
- **Specification or Employer's Requirements**
  - **General and administrative specification**
  - **Technical specification**
- **Bill of Quantities**
- **Drawings**
- **Supplementary Information**
  - **Climate**
  - **Geology and geotechnical**
  - **Hydrology**

# Contract Relationship



# Conditions of Contract

- **FIDIC Conditions of Contract are widely used**
    - **FIDIC = Federation Internationale des Ingenieurs-Conseils**  
(International Federation of Consulting Engineers)
  - **Red: Construction**
  - **Yellow: Plant and Design-Build**
  - **Silver: EPC/Turnkey**
  - **White: Client/Consultant Model Agreement**
- 
- **FIDIC may need modifications and additional clauses for Project Finance**



# EPC contract

- **Use of standard contracts like FIDIC**
- **Owners control**
- **The final design**
- **Detailed design**
- **Completion**
- **Guarantee period**
- **Payment**
- **Bonds**
- **Insurance**

# **EPC Contract (2)**

- a) The preparation of the bidding document**
- b) Eventually a prequalification will require additional time**
- c) The bidding itself will take time**
- d) Opening of the bids – will be formalized**
- e) Then the evaluation of the bids will take its time**
- f) Necessary following up negotiations with the elected bidder.**

# Types of contract

- **Lump sum contract**
- **Unit-price contract**
- **Cost-plus contracts**
- **Market price contract**
- **Turnkey contract**
- **Management contract**
- **Provisional price contracts**

# Payment

- **Advance payment / mobilization**
- **Milestones**
- **Retention**

# Completion

- a) Start up – tests**
- b) Performance tests (minimum level – contract)**
- c) Liquidated damages for poor performance**
- d) Reliability tests**
- e) Guarantee period**
- f) Training and owners responsibility**

# **Bonds:**

- a) Performance bond (in case of completion of another contractor)**
- b) Advance payment bond (in case of non-delivery of equipment or insolvency)**
- c) Retention bond (withholding a percentage of each installment payment)**
- d) Bid or tender bond (in case the winner of bidding decides not to proceed)**
- e) Completion guarantee will often be claimed by the lenders (even in case of corporate financing).**

# Payment of bonds

- **A) Unconditional on demand**
- **B) Conditional**
- **C) Documentary**

# Insurances

- **Liability**
- **Property**
- **Loss of income (in case of delay)**
- **Workers compensation**
- **Vehicles**

# Issues related to development of Hydro Power compared with thermal power

<b>Construction</b>	<b>Operation</b>
<b>Size of investment/Financing</b>	<b>Fuel costs (fuel storage/transportation)</b>
<b>Remote areas, problem linked to transportation of heavy equipment etc.</b>	<b>Hydrological risks</b>
<b>Environmental issues</b>	<b>Site close to the end-consumer</b>
<b>Transmission lines</b>	<b>Maintenance (?)</b>

# Financing

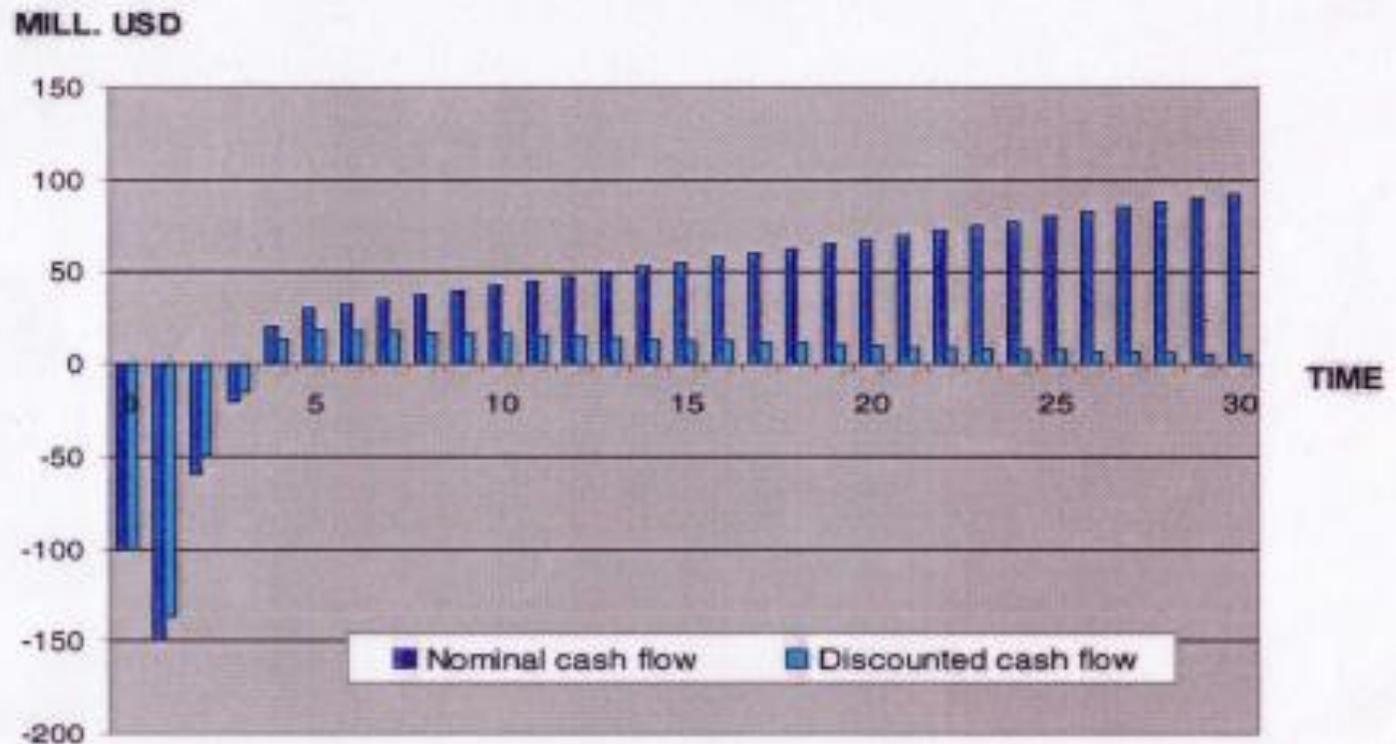


# **Project Financing - Main issues**

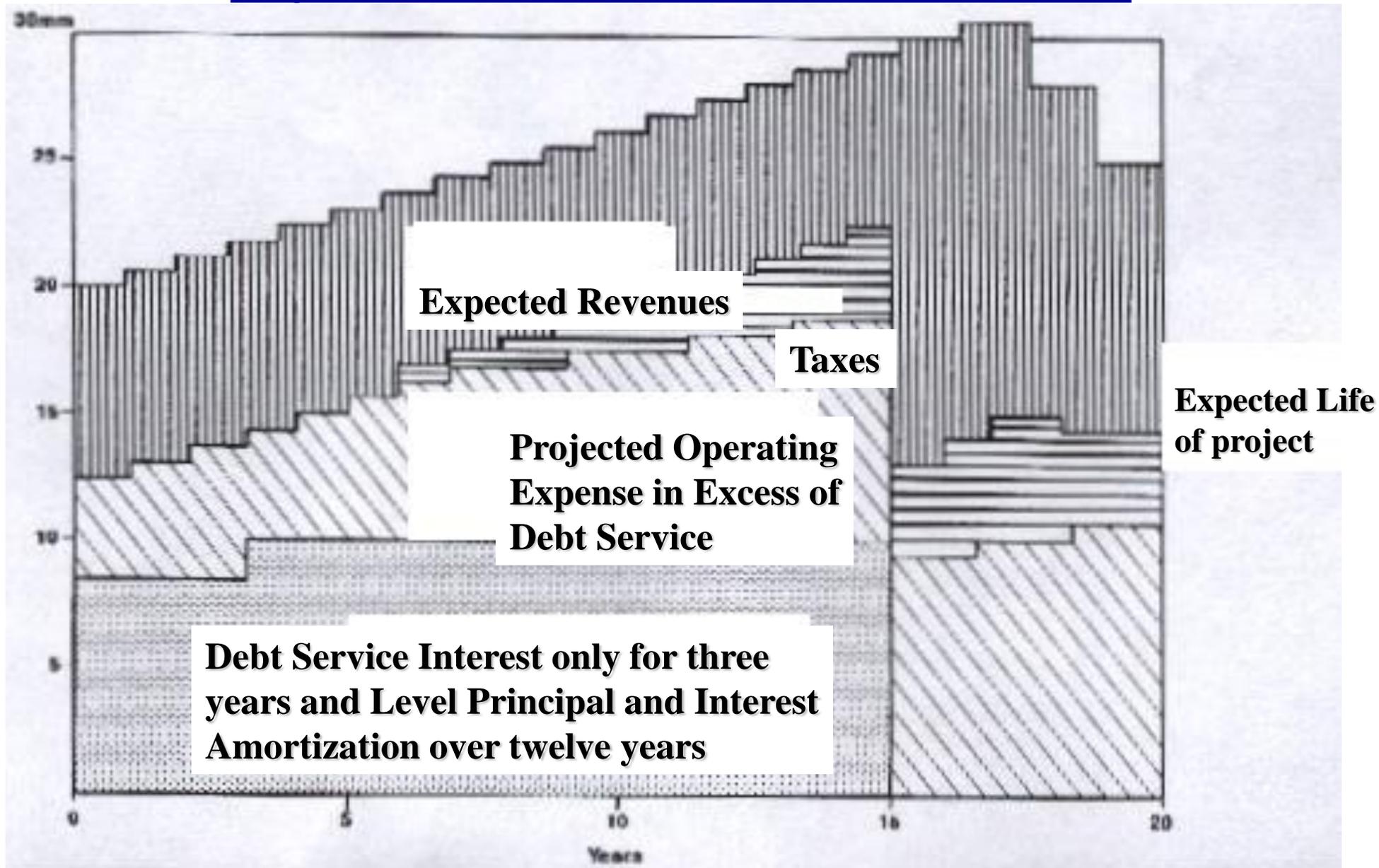
- **A) Competition between lenders ?**
- **B) Domestic lenders / banks**
- **C) Domestic pension funds etc.**
- **D) THPC- model**
- **E) Export Credits/ grants**
- **F) China**
- **G) The term of the loans**

# Net Present Value calculation is crucial in long term projects:

Example: Nominal cashflow= \$1,3 bn. Vs: NPV= \$20 mill.



# Revenues, operating expenses, taxes and debt service adjusted for inflation and escalation



# **Financing package (or wrap)**

- **Support letter**
- **Credit Agreement**
- **Comfort Letter**
- **Common Terms Agreement/Term sheet**
- **Facility agreements (one agreement for each funder)**
- **Security package**

# Options for financing

- **Multilateral banks/agencies**
- **Commercial lending**
- **Export Credit**
- **Local Banks**
- **Bond financing**
- **Project Leasing**

# Total Financing Plan

- **Base equity**
- **Senior debt**
- **Mezzanine financing**
- **Shareholders subordinated loans**
- **Export credits**

# **Facility Documentation**

- **The purpose and amount of the facility**
- **Conditions precedent to the availability of the facility**
- **The drawing conditions**
- **Interest calculation and payment provisions**
- **Fees and costs**
- **Representations and warranties**
- **Covenants and undertakings**
- **Transfer and assignment provisions**
- **Confidentiality obligations**
- **Waiver and amendments provision**
- **Boiler-plate clauses, - like jurisdiction etc.**

# **Documentation required may include:**

- **Finance Documents**
- **Security Documents (including the Security Trust Deed)**
- **Inter-creditor Agreements (Common terms agreement)**
- **Insurance-package**
- **Certificates (completion)/test**
- **Direct Agreements with Operator, Grid Owner, Contractors**

# **Elements in project financing:**

- **The Agent, the Lenders Agent and the Trustee (and Security Trustee)**
- **Escrow Arrangements**
- **Independent Engineer, Insurance Consultant and Independent Legal Counsel**
- **Covenants to be provided by the Company**
  - **Completion Certificate of Guarantees**

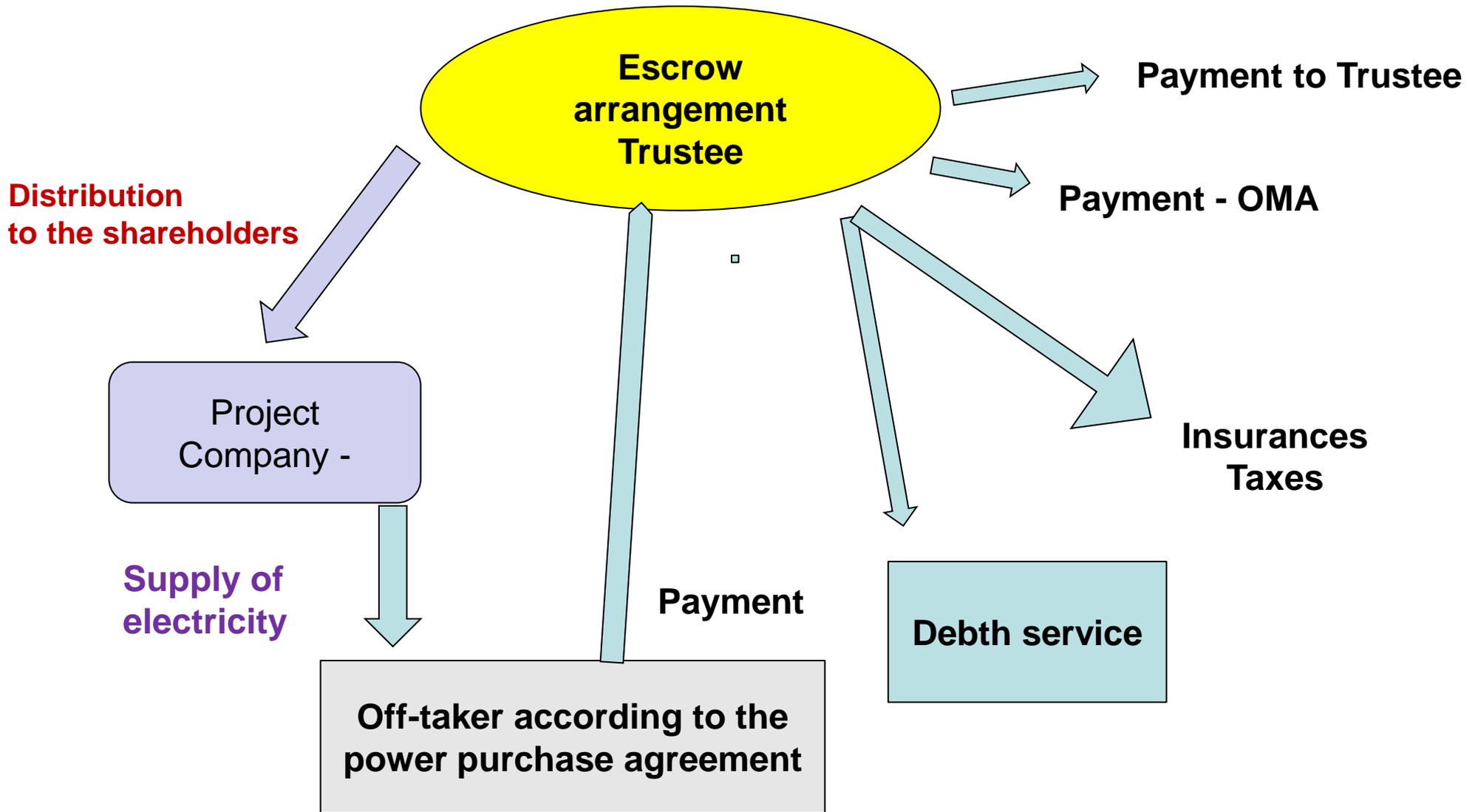
# **Government guarantees**

- **Payment guarantees**
- **Performance guarantees**
- **Foreign exchange convertibility guarantees**
- **Repatriation of dividends and capital guarantee**
- **Political risks guarantees (expropriation)**

# **Financing:**

## **Project Accounts/and Disbursement Account**

- **Fees payable to the Trustee**
- **Operation costs/Project Costs**
- **Insurance premium**
- **Taxes**
- **Interest and other financing charges**
- **Debt service**
- **Funding of reserves according to the loan agreement and company law**
- **Dividends/distributions to the shareholders**



# **Maturity / conditions of the loans**

- **Standard loans:**
- **6 years grace period and 14 years repayment period, LIBOR plus 5 % incl. Fees. Requirement sovereign guarantee**
- **Commercial loans:**
- **No sovereign guarantees. 14 years maturity. LIBOR or fixed marked rate plus 6 % and up front fee of 1 %. Conditions similar to commercial loans**
- **Export credits: No sovereign guarantees. 14 years maturity. LIBOR or fixed marked rate plus 1.5 %. Flat up front fee 1 %.**

# MIGA

**MIGA was established in 1988 by the World Bank Group, with the primary purpose of enhancing "the flow to developing countries of capital and technology for productive purposes under conditions consistent with their development needs, policies and objectives, on the basis of fair and stable standards for the treatment of foreign investment."**

# **MIGA (2)**

**Insurance could provide coverage for:**

- a) Currency transfer (inability to convert and transfer local currency into foreign exchange)**
- b) Expropriations**
- c) War and civil disturbance, to protect against damage to, destruction of, or disappearance of tangible assets, including that arising from politically motivated acts of sabotage and terrorism.**

# **Insurance and guarantees**

- **The "roof" and the "floor" related to insurance coverage.**
- **The challenge of documentation (photos and reports)**
- **The option to establish a Captive.**
- **The size of the premium to be paid may be prohibitive.**

# Clean development mechanism (CDM)

- **Based on «certified emission reductions» CER**
- **Steps:**
  - **A) Project Development**
  - **B) Project Validation and Registration**
  - **C) Project Monitoring**
  - **D) Verification, Certification**
  - **E) CDM board will issue CERs**

**When this is in place the developer will be in position to sell the CERs.**

## **Statement from La`o Hamutuk. July 2011** **(opposition party – Timor Leste)**

- **” La`o Hamutuk opposes Carbon Trading in principle. We do not believe that industrialized countries should be able to buy the right to continue to destroy the global climate through encouraging responsible practices in countries like Timor-Leste. Under principles of Climate Justice, those who have destroyed the climate are obliged to provide reparations to people who are suffering its impacts, but that does not give them permission to continue destruction”.**

# CO2 issues

- **The question of origin of electricity**
- **Only related to new capacity**
- **Kind and size of new generators accepted**
- **Audit**
- **Transaction costs related to certification**
- **The requirement that new capacity should be depending on support to be feasible.**
- **The market must be mandatory**

# **Environmental issues**

- **International NGOs have taken the lead.**
- **The multilateral banks have integrated extensive environmental procedures as basis requirements for granting financial support.**
- **Most countries have new environmental laws**
- **Most energy companies have integrated environmental standards and guidelines in their company policy.**

# **EIA – the focus of the banks**

- **The banks want the project to be sound:**
  - **Environmentally**
  - **Technically**
  - **Economically**
  - **Financially**



**Thank you for  
your attention**