The background of the slide is a close-up, high-angle shot of numerous water bubbles rising from the bottom. The bubbles vary in size and are densely packed in some areas, creating a dynamic, textured blue background. The lighting is bright, causing some bubbles to appear overexposed and others to show clear highlights and shadows.

The role of Lenders' Technical Advisor in hydro projects

**Sustainable Hydropower Financing in the Mekong
River Basin**

Bangkok, 24 September 2010

**Eric Wolters,
Parsons Brinckerhoff**



Introduction

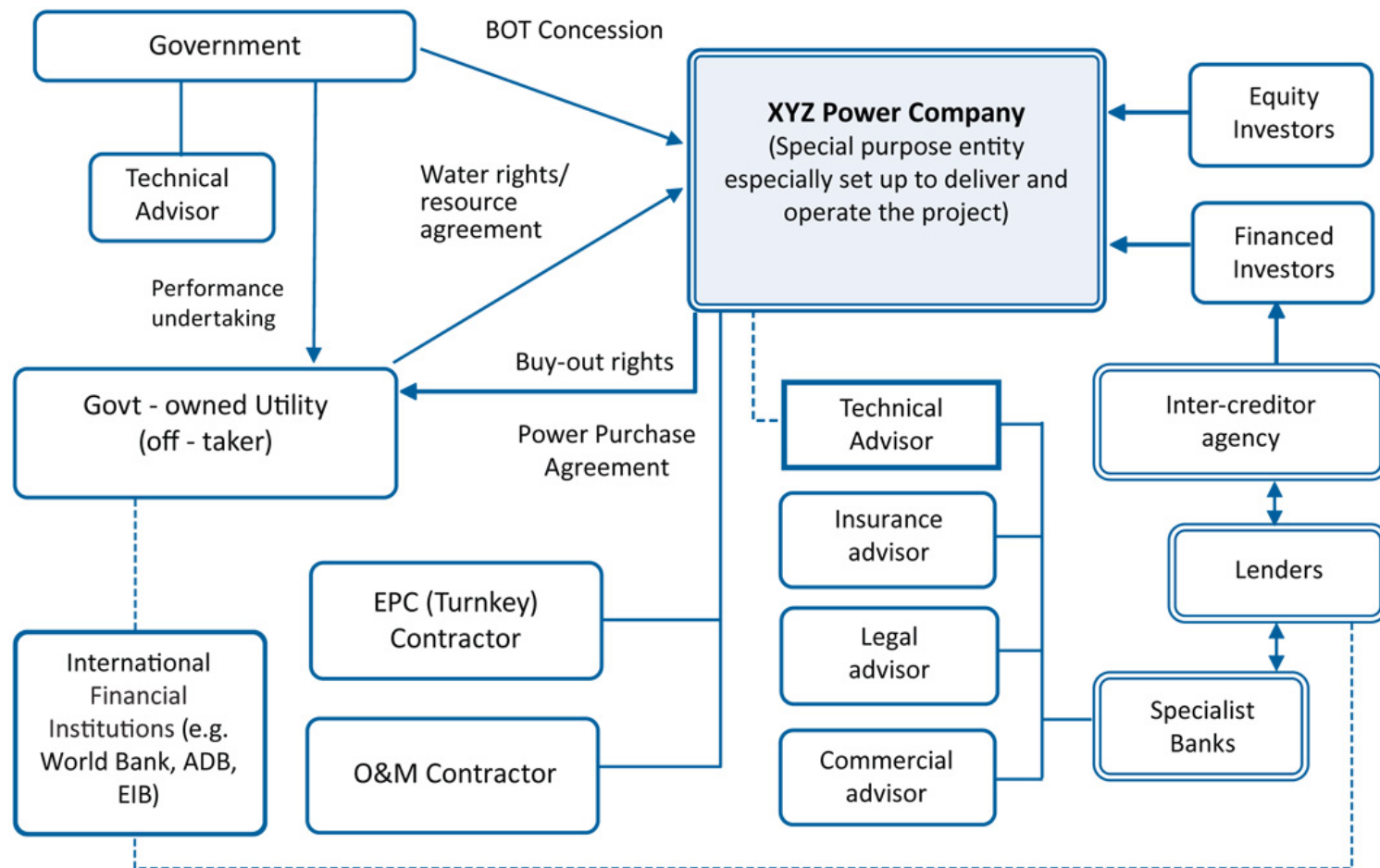
- Appetite for hydro – investors, power companies, lenders
- Consideration of risk
- LTA's role



Presentation map

- Typical project structures
- Duties of the LTA
- General risks
- Hydro project risks
- Maximising the value of the LTA

Typical Project Structure





Duties of the LTA

- Defined in Common Agreement and Technical Advisory and Consulting Service Agreement
- Employed by Owner but duty of care to Lenders
- Formal Duties
 - Due diligence
 - Certification
 - Review
 - Monitoring

Risk definitions

Investor's perspective:

The probability of not achieving the expected financial return



Lender's perspective:

The probability of a cashflow outcome different from the one projected/forecasted

General Risks



General Risks

a. Operating

- Technical – technology, plant life vs. funding life
- Cost – labour, productivity, opex
- Management – personnel, experience



General Risks

- b. Participant
- c. Completion –
overruns
- d. Supply – fuel,
hydrology



General Risks (cont)

- e. Market – electricity demand
- f. Infrastructure – transmission, transportation
- g. Engineering – design flaws



General Risks (cont)

h. Environmental and Social - Equator



Photos by Stephen Sparkes

Hydro Project Risks

- Due diligence phase (pre-financial closure)
Fuel, technology, infrastructure, design, cost, completion risks, environmental/social issues



Hydro Project Risks

- Implementation phase

Safety, quality, engineering standards, completion risk, variations, enviromental/social mitigation, staffing and training, plant documentation



Hydro Project Risks (cont)

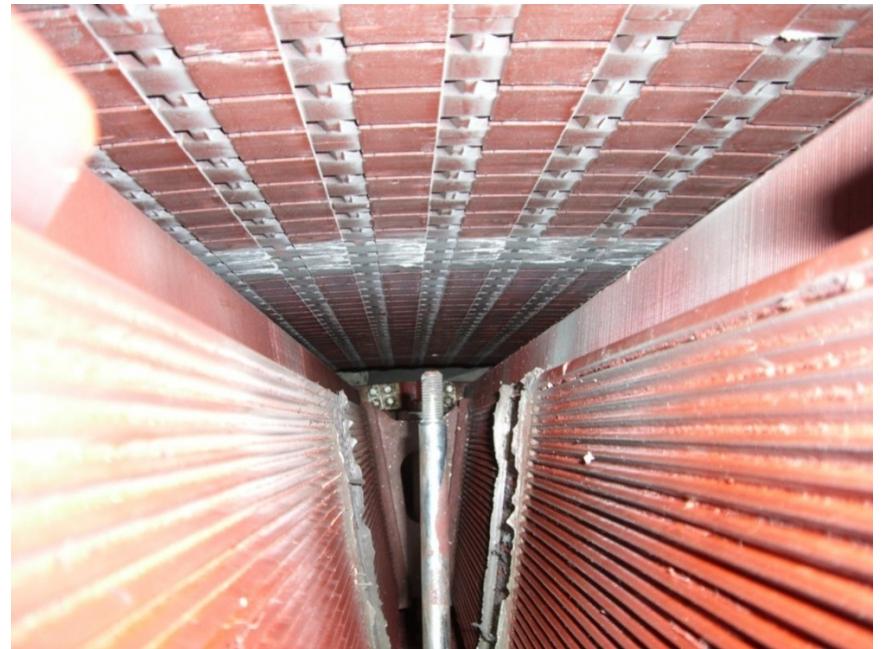
- Completion

Verification and certification of conditions precedent to taking over and commercial operation



Hydro Project Risks (cont)

- Operational phase
 - Monitor the performance of the assets and operational risks
 - Review owner's operating budgets, asset management plans and extraordinary expenditure





Maximising the value of the LTA

A necessary evil? (Developer's view)

Not if:

- Provides comfort to lenders
- Cooperative, mutually helpful relationships established

Duty of care is to the lenders, but objectives are aligned with the developer's



Conclusion

LTA's success measured by:

Degree to which investors feel they have been adequately represented, and

Degree to which the Developer feels that the LTA has been fair and reasonable.

