
Accessing Capital for Hydropower Projects

Sacramento – July 11, 2008



Aspect A6: Access to Capital

Determining if adequate finance is available

- Historically, hydropower has depended on public sector support for financing, guarantees, and risk sharing; however private sector lending to hydropower is increasing
- A minimum debt:equity ratio of 80:20 is generally required

Assessing the certainty of financing

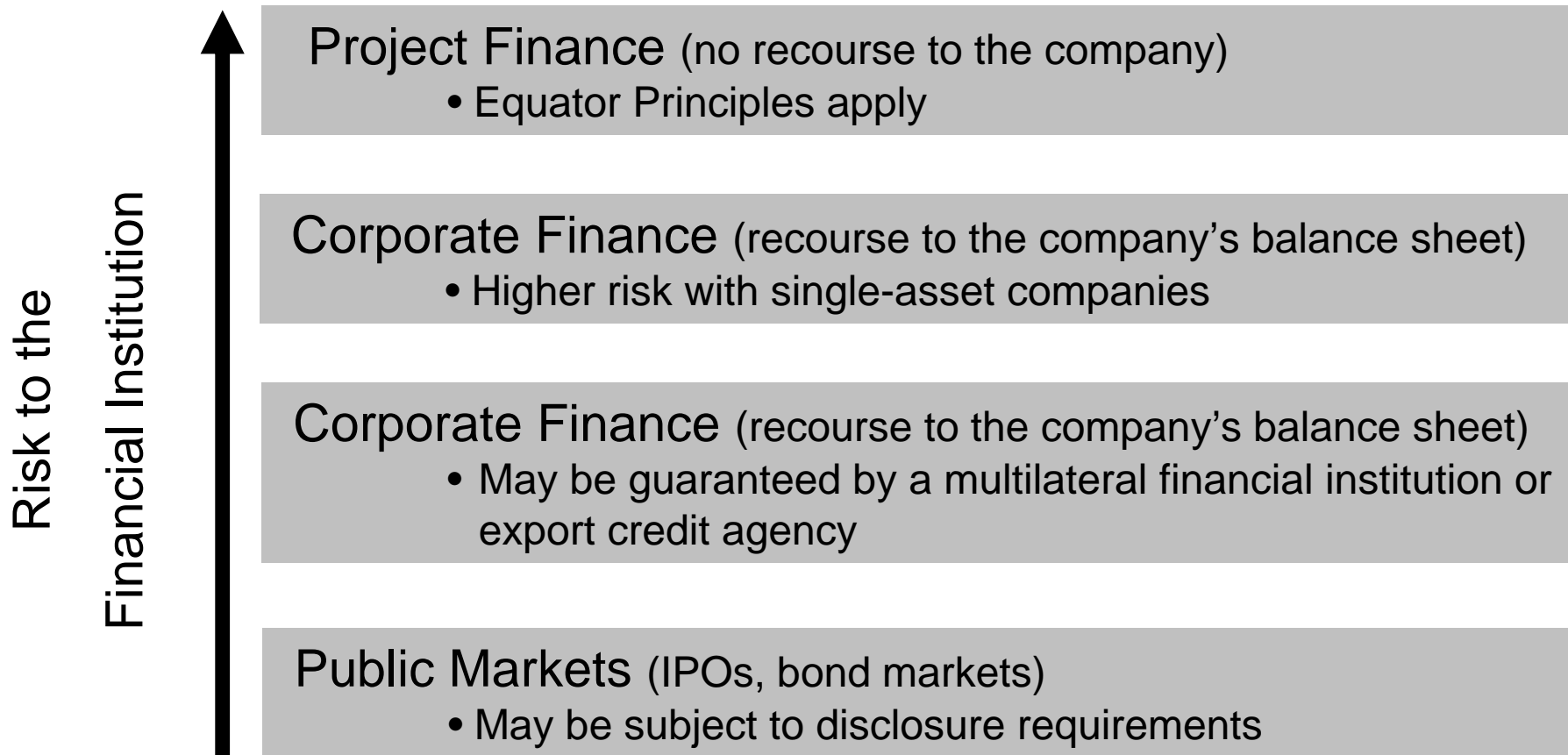
- Lenders will want to ensure a minimum debt service coverage ratio (i.e. a measure of the a project's ability to repay debt)
- To avoid the risk of default, commercial lenders look for a legally enforceable power purchase agreement, and for coverage of various project risks through risk sharing and guarantees (e.g. via export credit agencies, etc)

Assessing the terms and conditions

- Term Loan pricing may differ during construction and operation phases



Types of Financing – an Overview



Financing Risks

Financing hydropower is very heavily dependent on managing various types of risks:

- **Market risk:** Does the project have a Power Purchase Agreement (PPA)?
- **Construction risk:** Is there a fixed price 'turnkey' contract (or EPC contract)?
- **Interest rate risk:** Floating or fixed rate? Interest during construction can be significant.
- **Political or sovereign risk:** Does the project have political risk insurance? Are there multilateral financial institutions involved?
- **Foreign exchange risk:** Will debt be sourced in a foreign currency?



Terms and Conditions of Financing

- Project finance loans involve large amounts of money (\$10MM or more), and typically have terms of 10 - 30 years
- Commercial banks usually share the risk by syndicating the loan among several banks, with one or a small number of banks playing the role of lead arrangers
 - As a result, compliance with the **Equator Principles** is usually required to access the project finance market
 - External consultant fees (technical, legal, and environmental) are included in the cost of project financing
- **Loan covenants** may include compliance with environmental and social standards (usually IFC or World Bank)



What is required by the Equator Principles?

Principle 1: Review and Categorization

Principle 2: Social and Environmental Assessment Process

Principle 3: Applicable Social and Environmental Standards

Principle 4: Action Plan and Management System

Principle 5: Consultation and Disclosure

Principle 6: Grievance Mechanism

Principle 7: Independent Review

Principle 8: Covenants

Principle 9: Independent Monitoring and Reporting

Principle 10: EPFI Implementation Reporting



The Equator Principles Process

Project:

Development of a greenfield hydroelectric project with an installed capacity of 250 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principle 1: Review and Categorization

What category should be assigned based on the information provided?

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principle 2: Social and Environmental Assessment Process

- Preliminary environmental impact assessment was prepared for government approval two years prior
- Preparation of addendum that documents public consultation and disclosure process
- Preparation of a new EIA for the transmission line
- Preparation of Resettlement Action Plan
- Indigenous Peoples expert was contracted to develop Indigenous Peoples Development Plan

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principle 3: Applicable Social and Environmental Standards

IFC EHS Guideline – General Health & Safety

PS 1 – Social and Environmental Management Systems

PS 2 – Labor and Working Conditions

PS 3 – Pollution Prevention and Abatement

PS 4 – Community Health, Safety & Security

PS 5 – Land Acquisition and Involuntary Resettlement

PS 6 – Biodiversity Conservation and Sustainable Natural Resource Mgmt

PS 7 – Indigenous Peoples

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principle 4: Action Plan and Management System

- Recruitment, Employment and Training Management Plan
- Health and Safety Management Plan
- Reservoir Management Plan
- Erosion and Sedimentation Control Plan
- Emergency Response Plan
- Public Consultation and Disclosure Plan
- Grievance Mechanism
- Indigenous Peoples Development Plan
- Resettlement Action Plan
- Others?

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principles 5 and 6: Consultation and Disclosure

Prior to Advisory Mandate

- Introduction of project
- Government processes and approvals
- Planning/Scoping ESIA

Structuring of Project Financing

- Consultation on environmental and social baseline and mitigation measures
- Ongoing land acquisition and compensation consultation
- ESIA and ESMP disclosure
- Disclosure workshops with communities, government, bilateral agencies, and NGOs

Construction Phase

- Consultation and management of community relations

Operations and Decommissioning

- Ongoing consultation and management of community relations

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principle 7: Independent Review

- Information Review
- Site Reconnaissance
- Environmental and Social Due Diligence Report & Draft Action Plan

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
- Resettlement of 70 to 90 indigenous families (420 to 540 people)
- Inadequate EIA



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Principle 8: Covenants

Covenants required:

- To comply with local and national law
- To comply with the Environmental and Social Action Plan and the Environmental and Social Management Plan

Monitoring and reporting requirements may be included as a positive covenant or as an Information Undertaking

Events of Default typically include:

- Issues that may result in any Material Adverse Effect, or
- Failure to maintain any Consent or comply with its terms

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Project:

Development of a greenfield hydroelectric project with an installed capacity of 216 MW in Latin America

E&S Risks:

- Potential impacts to World Heritage Site
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- Inadequate EIA



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Principle 9: Independent Monitoring and Reporting

Monitoring:

- Audit and inspection
- Compliance with license/permit requirements
- Compliance with environmental and social management plans
- Land acquisition monitoring
- Participatory development plan monitoring

Reporting:

Construction phase

- Semi-annual reports on environmental and social matters
- Semi-annual verification visits by the environmental consultant (alternated with reports)

Operation phase

- Annual verification visits by the environmental consultant

Take Home Messages:

- Accessing capital often requires consideration of environmental and social risks
- Different types of financing will have different environmental and social requirements
- The IFC and World Bank Group environmental and social standards are used by most financial institutions (public and private) to assess and manage risk

To be used as a tool by Financial Institutions:

The Sustainability Assessment Protocol needs to assess compliance with IFC and World Bank Group standards

