Risks in Sustainable Energy Project Development

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Risk categories

- Political
- Technical
- Environmental
- Social
- Legal and Regulatory Framework
Risks related to site

- Site selection
- Land acquisition/ownership models
- Environmental clearance
- NIMBY
Resource Risks

- Variability
- Climate dependent
- Longer term quality data required in resource assessments for some RE projects
- Large investments required before confirming viability of resource
Offtake risks

• Critical: economic and executable agreements by the project parties, and that it is ultimately confirmed by written contract
• Time lag to establish agreements, eg PPAs
• Transmission and grid interconnection, relating to the direct and ancillary infrastructure. (lack of studies)
• Agreements not being grandfathered
• Need for curtailment based on merit order
Permitting

• Dependent on strong development of **Site, Resource, Offtake**
• Lengthy processes with high hurdles for permitting
• Insufficient capacity and experience within state permitting bodies
• Insufficient legal and regulatory framework to support permitting
Technology risk

- Vulnerability of supply chains for rare earth elements used in RE and EE technologies
- Degradation factors for some technologies
- Intermittency
- Technology costs
- Resilience to environmental conditions
- Quality of components and lower performance compared to nameplate (EE)
Risk associated with project Team

- An assembly of a fully qualified team is required
- Expertise in business, technical, financial, legal, and operational aspects of the project, required
- Lack of highly qualified experts in all areas of expertise
- Proven experience and capability are key elements to most investment decisions by qualified investors
• Capital requirements do not begin at construction but are engaged at incremental points along the development process
• All other elements must be in place, Site, Resource, Off-take, Permits, Technology, and Team
• Capital refers to both the predevelopment and development stages, and then in a financial closing that includes the financing required through construction and initial operations
• Financial institutions lack full capacity to assess RE&EE projects
• Regulatory framework must support financial frameworks
• Insurance schemes for RE & EE not widely available
Energy Efficiency Project Risks

• Lack of information
• Uncertainty in Energy Prices
• Regulatory and contract risks
• Enforcing contracts
• Access to capital
• Credit and budget constraints, which also imply short-term payback requirements
• Additional infrastructural investments required to support EE installations
Thank You

For additional information
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