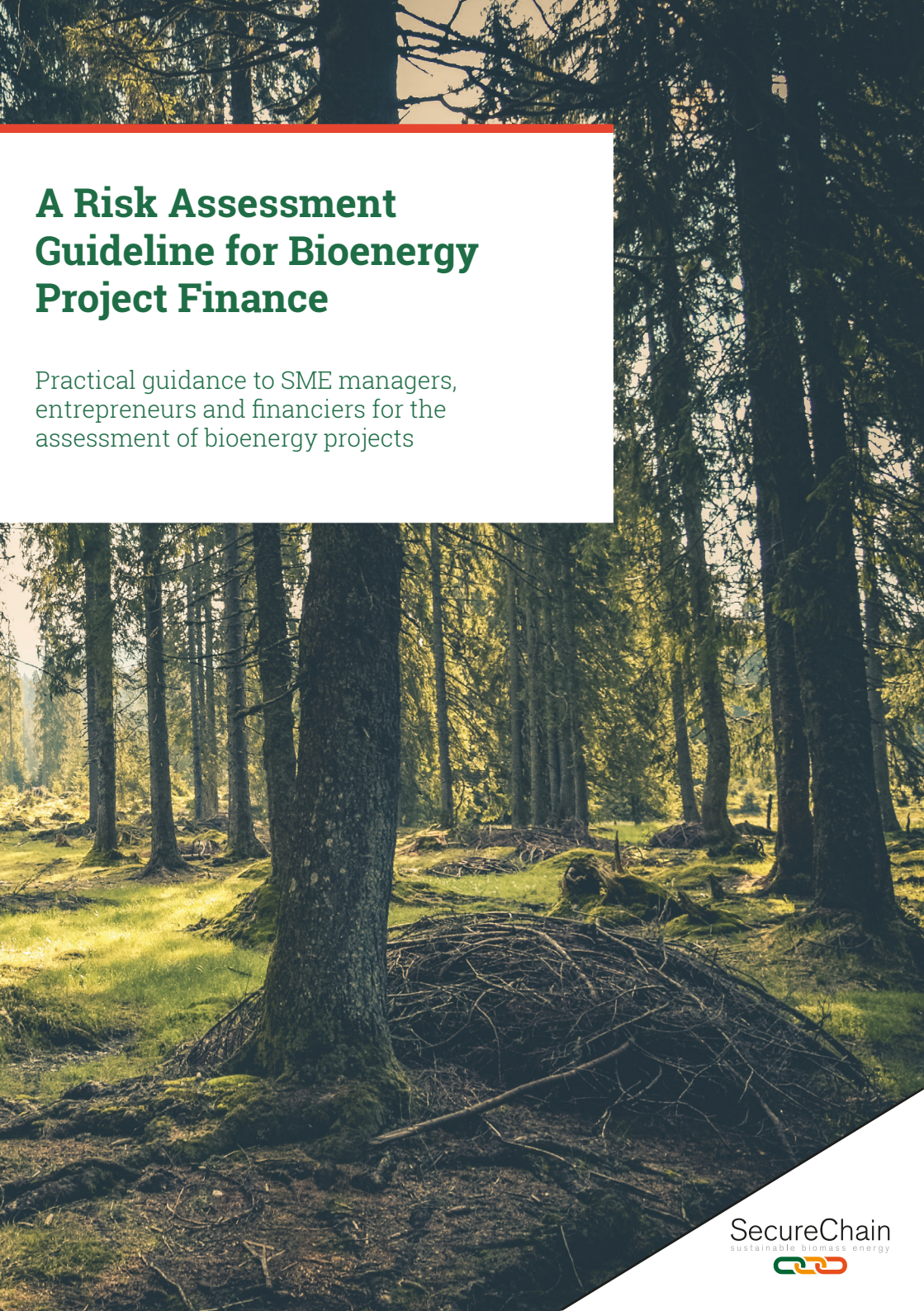
A Risk Assessment Guideline for Bioenergy Project Finance

Practical guidance to SME managers, entrepreneurs and financiers for the assessment of bioenergy projects



SecureChain
sustainable biomass energy

Small and medium enterprises are the core of the solid biomass to energy sector. What are the business opportunities in bioenergy and how can investments in sustainable supply chains be facilitated?

Secure Demand

"The key factor for reaching financial close was securing a long term off-take contract with a dairy company that acquires our biofuels"

Pyrolysis Plant CEO

Fuel Supply

"Smaller Scale Projects with simple feedstock supply chains are easier to sell or finance"

A Bioenergy Project Development Consultant

Favourable Regulatory Framework

"Having a feed in tariff set at 0.18EUR kWh encouraged us to invest in a back up 180 kW CHP plant that operates in summer instead of the 2MW boiler".

A 2MW District Heating Network Manager from Austria

Project Design & Management

"The keys to financing are proper understanding of the technical feasibility of a biomass project and confidence in the choice of technology and the required O&M"

ESCO CEO in Catalonia

Cost of Capital

"For long-term agreements with municipal authorities, an internal rate of return as low as 10% would be considered attractive to invest in the project"

ESCO CEO in Catalonia

Price of substitute fuels

"Expecting cheap fossil fuels prices (diesel), procrastinates the decision to replace old boilers into more efficient biomass ones"

An owner from an 8MW CHP Plant in South Europe.

Successful fundraising tips. The SME perspective.

Build an outstanding business plan

State your ambition and identify the scale of the opportunity.

Do not allude to risks and challenges; turn them into the opportunity.

Prove that you possess the right skills and network.

- Absorbing Business Plan
- Credible Fact Sheet

Find the best sources of capital

Detail your financial needs; state how much capital is required, how it would be invested and when you plan to pay it back.

Demonstrate how risk is deleveraged and establish milestones.

Search for investors and lenders who target your portfolio of projects.

- Concise Investment Teaser
- Road Show Agenda

Formalize debt issuance or dilute your equity

Negotiate a term sheet that does not cannibalize your business plan principles.

Generate momentum simultaneously among different sources of capital.

Pick up the best funding sources, balancing committed liabilities and foreseeing the best partners for your journey.

- Signed Letter of Intent (LOI)
- Debt Agreement, Convertible Notes, Shareholders' Agreement

Choosing the right projects and deleveraging risks. The investor perspective.

Find outstanding and trustful people

Scale business ambition to reality and identify hidden values.

Consider whether risks and challenges could become entry barriers.

Verify that the team possesses the right skills and try to expand their network.

- Critically review Business Plan
- Define your investment thesis

Tie them to your investment thesis

Ensure that the opportunity is compatible with your capital allocation strategy and has a clear exit date.

Gear procurements and contingencies towards risk deleveraging.

Invest in what you understand; anticipate your potential exit strategies.

- Influence Investment Teasers

Commit to common objectives

Balance expected returns with the company's growth potential.

Co-invest with other funders with complementary investment theses.

- Signed Letter of Intend (LOI)
- Debt Agreement, Convertible Notes, Shareholders Agreement

Risks to consider and mitigation strategies

Risk Category	Risk Type	Mitigation Strategy
Fuel Supply 	Biomass availability/ contract	Set out mid-term contract agreement with reliable suppliers, establishing quantities to deliver and pre-arranged prices.
	Biomass price	Assess and validate feedstock supply chain.
	Logistics implementation	Identify sources of biomass and delivery routes to plants.
Capital Expenditures 	Technology choice and plant design	Incorporate Engineering, Procurement and Construction (EPC) partners.
	Project design & management	Adopt the Front-End Engineering Design (FEED) approach.
		Build an outstanding team and establish a governance model among participants.
	Land acquisition or usage	Be clear about ownership or terms of rent formalization.
	Construction	Ensure that the necessary permits and authorizations are in place.
	Grid connection	Obtain approval from national energy authorities.
Operation & Maintenance 	Operations performance	Use modularity in production lines to facilitate flexibility of production and responsiveness to sudden changes in demand.
		Ensure that staff hold the appropriate qualifications.
		Size plants to reach saturation.

Risk Category	Risk Type	Mitigation Strategy
Price of Electricity or substitute fuels 	Baseline Price of energy (opp. cost)	Minimize costs of self-produced heat and/or electricity. Negotiate electricity with utilities based on time-of-use tariffs, focusing self-consumption strategy on peak tariff periods.
Finance 	Public-private arrangement	Negotiate long term Purchase Agreements (PA), such as Feed in Tariffs or ESCO services.
	Cost of capital	Conduct financial analysis to estimate returns and exit scenarios.
	Exchange rates	Analyze if insurance exchange can deleverages risk of supplies price volatility.
Policy Framework 	Authorizations & legal aspects	Monitor developments in the pertinent legal framework.
	Planning constraints	Consider planning aspects from the start of project development. Engage local population early in the project.
Others 	Environmental considerations	Use life-cycle assessment to scale emissions and other environmental aspects.
	Amenity issues & public acceptance	Conduct feasibility analysis of social acceptance, such as regional employment potential.
	Heat load rate	Prioritize those projects or clients with recurrent heat demand.

Title	**A Risk Assessment Guideline for Bioenergy Project Finance**
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