



RENEWABLE ENERGY FINANCING AND MODELLING

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Description

- Financing is one of the largest barriers to the development of sustainable energy in Africa and this is true for both renewable energy and energy efficiency.
- This module will consider financing issues the development of renewable energy. Particular consideration is made for principles of financial modelling, relevance of financial information, sources of finances, integration of risk in decision making in financing renewable energy and innovation in financing renewable energy projects



Overall objective

1. Introduce students to renewable energy resources availability.
2. Discuss the main characteristics of pricing, cost and revenue models.
3. To give students a basic knowledge of financial reporting.
4. Discuss the financing mechanisms of renewable energy projects.
5. Consider factors in choosing source of financing
6. Discuss innovations in renewable energy financing
7. Discuss risk management issues for renewable energy projects



Areas covered

1. Principles of financial modelling
2. Financial reporting and analysis in renewable energy projects
3. Introduction to renewable energy
4. Sources of Finances available
5. Debt and Equity financing
6. Innovation in financing renewable energy project (interest and gift registers)
7. Risk management in renewable energy project



Principles of financial modelling

- Discuss the main characteristics of pricing, cost and revenue models
- Discuss the different types of models;
 - Cost based pricing,
 - Competition based pricing
 - Full cost model
 - Contribution margin model



Financial Reporting and Analysis

1. Discuss the nature and purpose of the income statement, balance sheet and cashflow statement;
2. Prepare an income statement, balance sheet and cashflow statement from relevant financial information and interpret the information that it contains;
3. Discuss the main recognition and measurement issues that must be considered when preparing the income statement, balance sheet and cashflow statement;
4. Understand the annual reports under international financial reporting standards (IFRS); the content of the statement of financial position (balance sheet); State the various levels of profit and cash flows.
5. Analysis of Financial statements



Ratio Analysis

- Financial ratios are used to evaluate the economic and financial performance of a business.
- The most common are:
- Return on Sales (ROS) – Operational performance
- Return on Investment (ROI) - Profitability
- Return on Equity (ROE) – Ownership interest
- Debt/Equity Ratio (D/E) – Capital structure



Introduction to renewable energy financing

- This is intended to meet the following
 - Know the potential and suitability of renewable energy as a substitute for conventional energy resources;
 - Define the main financing mechanisms of renewable energy projects (Corporate VS Project).
 - The need for renewable energy
 - Risk assessment in RE projects focusing on various risks (COPFEB)



Sources of Finance Available

- The learners should be able to[
 - Explain the sources of finance by classification.
 - Develop a financing mix for a renewable energy venture.
 - Defend the choice of mix designed for a given renewable energy venture



Classification

- They are classified based on
 1. Time period,
 2. Ownership
 3. Control,
 4. Source of generation.
- It is ideal to evaluate each source of capital before opting for it.



Debt and Equity financing

- i. What is Debt Financing and Equity Financing?
- ii. What are the various forms of debt financing and Equity financing?



Innovation in financing renewable energy businesses

- Provides an overview of the financial markets for renewable energy (climate finance)
 1. Introduce innovative finance mechanism for renewable energy
 2. Provide the concept of green finance instruments
 3. Integrate the concept of Islamic finance and microfinance for renewable energy.
 4. Explain the meaning of Islamic finance
 5. Present the different Islamic financing models those are useful for renewable energy projects.
 6. Give an overview of the possible Islamic approaches, Islamic policies and Islamic incentives to
 7. increase the involvement of banking and financing institutions.



RISK MANAGEMENT IN RE FINANCE

- [?] identify the various risks that renewable energy projects face and how they can be overcome.
- [?] define financial planning and cash flow forecasting for RE projects



Conclusion

- Deciding the right source of funds is a crucial business decision taken by finance managers.
- The usage of the wrong source increases the cost of funds which in turn would have a direct impact on the feasibility of the project under concern.
- Improper match of the type of capital with business requirements may go against the smooth functioning of the business.
- Financial sustainability is at the heart of Renewable energy success



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Thank you!