Syllabus

MLICS6021 Renewable Project Financial Valuation

Fernando De Llano Paz

Winter Semester 2023/24

Level	Master	
Credits	3	
Student Contact Hours	2	
Workload	90	
Prerequisites	None	
Time	See LSF	
Room	See LSF	
Start Date	See LSF	
Lecturer(s)	**Name**	Fernando De Llano Paz
	Office	
	Virtual Office	Contat via email to schedule an appointment
	Office Hours	??
	Phone	Use email to contact the lecturer.
	Email	Fernando.de.llano.paz@udc.es

Summary

This subject is aimed to provide students with an overview of the financial planning process by using a specific model to draw up proforma financial statements applied to renewable facilities. This model enables students to assess the feasibility of Renewable project financial plans as well as their shareholder value creation capacity. This subject is highly practice-oriented and uses concepts and knowledge drawn from other managing areas.

The course is structured in three different parts. Firstly, an introductory overview of the renewable sector will be presented to contextualize the main features and challenges in this topic. Secondly, students will get acquainted with an overall financial valuation model including forecasting financial statements and cash flows, discount rates and sensitivity analysis. Finally, they will be asked to prepare and present a financial plan for a renewable project of their choice. The project should implement the general model explained above. The specific value drivers of that particular renewable project should be taken into account. The investment project must be linked to at least one renewable technology, or a combination of green technologies.

Outline of the Course

Contents	Teaching methodology	Teaching hours
1. Renewable energy: an overview	Lecture	3
2. Valuing projects:		
1. Fundamentals of Capital Budgeting	Seminar	5
2. Estimating the Cost of Capital	Seminar	4
3. Investment decision rules	Seminar	2
4. Sensitivity analysis	Seminar	2
3. Valuation and Financial modelling of Renewable projects		
1. Value drivers in a REN project	Lecture	5
2. Wind farms	Seminar & presentation	3
3. PV plants	Seminar & presentation	3
4. Hydro plant	Seminar & presentation	3

Course Intended Learning Outcomes and their Contribution to Program Intended Learning Outcomes / Program Goals

Program Intended Learning Outcomes		Course Intended Learning Outcomes	Assessment Methods	
	After completion of the program the students will be able…	After completion of the course the students will be able…	Essay	Presentation
			60%	40%
			Individual	Individual
1	**Expert Knowledge**			
1.1	…to demonstrate their distinguished and sound competencies in General Business Administration.	-to design proper strategies and drawing up feasible and shareholding value creating financial plans.	X	X
1.2	...to demonstrate their distinguished and sound competencies in Economics.	-to understand the financial and economic implications on a project-based view arising from those research questions and evidences.	X	X
1.3	...to have command of legal methodology for case solutions on basis of claims.		X	X
1.4	...to solve business problems based on profound data research skills and by applying quantitative methods.		X	X
1.5	...to demonstrate profound expert knowledge in their field of specialization.	-assess strategies to deploy renewable facilities and to analyse the major concepts of the Life Cycle under a financial perspective.	X	X
2	**Digital Skills**			
2.1	...to know and understand relevant IT software tools used in business and their features and have a solid understanding of digital technologies.		X	X
2.2	...to effectively use and apply information systems to develop solutions in business settings.		X	X
2.3	...to effectively use digital technologies to interact, to collaborate and to communicate.		X	X
2.4	...to handle the professional use of digital technologies in a responsible manner.		X	X
3	**Critical Thinking and Analytical Competence**			
3.1	...to implement adequate methods in a competent manner and to apply them to complex problems.	-to forecast the future cashflows coming from the field of Life Cycle Assessment tasks and to assess their feasibility and value creation by implementing financial valuation models.	X	X
3.2	...to critically reflect and interpret findings and to develop comprehensive solutions for complex problems.		X	X
4	**Ethical Awareness**			
	...to develop sound strategies in the areas of ethics, sustainable development and social responsibility and are able to apply them to typical economic decision-making problems.		X	X
5	**Communication and Collaboration Skills**			
5.1	...to express complex issues effectively in writing.	-to include a 'financial view' into those formal guidelines.	X	X
5.2	...to demonstrate their oral communication skills in presentations.	- to explain clearly and in a very concise way the financial performance of different approaches to third parties. - to give solid arguments based on proved financial concepts to accept or reject a renewable project.	X	X
5.3	...to work successfully in a team by performing practical tasks.		X	X
6	**Internationalization**			
6.1	...to understand and explain business challenges in an international context.		X	X
6.2	...to articulate themselves in a professional manner in international business.		X	X
6.3	...to successfully demonstrate awareness of cross-cultural differences.		X	X

Teaching and Learning Approach

The lecture is based on a seminar approach. Following an introduction by the lecturer, students gain knowledge by dealing with different issues in the field of renewable project financial valuation. The self-learning is assisted by regular discussions about the results achieved and individual remarks regarding methodology and results from the lecturer. In addition, support regarding specific literature is given. The continuous discussion and the final presentation of the results result in increasing students' discussion and presentation skills. By carrying out a written thesis students practice their written communication skills. The final mark will be the weighted average of the written work submitted (60%) and the presentation of the same (40%), in which students must defend the bases and results of their project.

Literature and Course Materials

Berk, J. B., & DeMarzo, P. M. (2020). Corporate finance (Fifth edition, global edition ed.). Pearson.

Blanco, M. I. (2009). The economics of wind energy. Renewable & Sustainable Energy Reviews, 13(6), 1372-1382. doi:10.1016/j.rser.2008.09.004

Donovan, C. W. (2015). Renewable energy finance: Powering the future. London: Imperial College Press.

European Commission. (2022). REPowerEU: affordable, secure and sustainable energy for Europe. Related documents. Retreived from https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en#repowereu-actions

Held, A., Ragwitz, M., Gephart, M., Visser, E., & Klessmann, C. (2014). Design features of support schemes for renewable electricity. task 2 report: A report complied within the european project "co-operation between EU MS under the renewable energy directive and interaction with support schemes". project number DESNL13116 European Commission, Brussels.

IEA. (2021). World Energy Outlook 2021. Retreived from https://iea.blob.core.windows.net/assets/4ed140c1-c3f3-4fd9-acae-789a4e14a23c/WorldEnergyOutlook2021.pdf

IEA. (2022). Renewables 2021. Retreived from https://iea.blob.core.windows.net/assets/5ae32253-7409-4f9a-a91d-1493ffb9777a/Renewables2021-Analysisandforecastto2026.pdf

IRENA. (2020). Renewable power generation costs in 2020. (). Abu Dhabi: Retrieved from https://www.irena.org/publications/2021/Jun/Renewable-Power-Costs-in-2020

IRENA. (2021). Renewable power generation costs in 2021. Retrieved from https://www.irena.org/publications/2022/Jul/Renewable-Power-Generation-Costs-in-2021

Morris, J. R., & Daley, J. P. (2009). Introduction to financial models for management and planning. London: Chapman and Hall/CRC. doi:10.1201/9781420090550 Retrieved from https://www.taylorfrancis.com/books/e/9781420090550

Yescombe, E. R. (2013). Principles of project finance (2. ed. ed.). San Diego, CA, USA: Elsevier Science. Retrieved from http://hesge.scholarvox.com/book/88819181

Assessment

The grading will be based on a written thesis (60 %) and an oral presentation of the individual renewable energy project at the end of the course (40 %). Attendance is compulsory for all presentations.

Academic Integrity and Student Responsibility

Participants that successfully complete the course…

- understand the importance of financial planning in managing renewable energy facilities.
- understand valuation basis and logic more deeply: feasibility and shareholder value creation.
- learn the bases of corporate financial modelling as well as understand the links among financial concepts and different financial statements.
- be able to elaborate, communicate and defend a corporate plan using different financial planning models and widespread software tools.
- delve deeper into the financial approach applied to the analysis and assessment of energy projects within the scope of renewable energy sources.

Code of Conduct for online Teaching

Link to the Code of Conduct for online Teaching