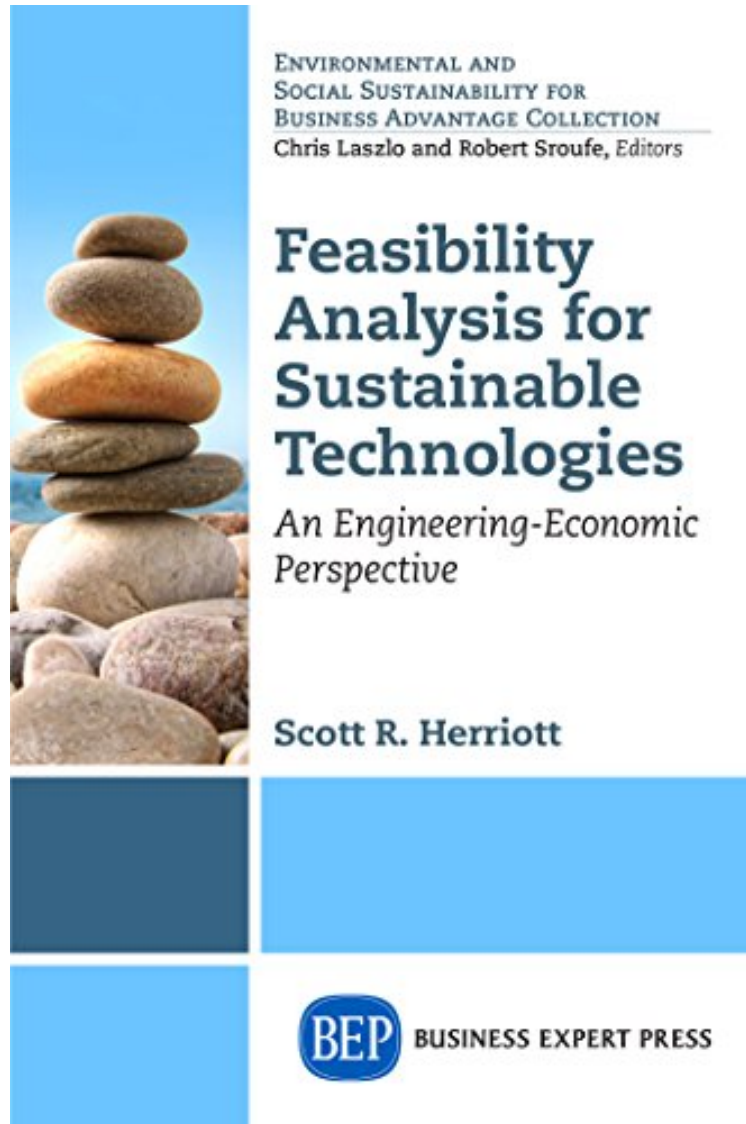


Feasibility Analysis for Sustainable Technologies: An Engineering-Economic Perspective

Scott Herriott

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This is a delightful book that makes it easy to analyze sustainable technologies and projects for their

economic viability. With clear explanations, easy equations, lots of representative examples, and spreadsheet screenshots of the calculations, this book is a feast for the eyes and the mind. The range of technologies examined is also a delight, from solar to hydroelectric to bio-diesel to natural gas and more; from their production to energy storage to replacements/disposal, etc. That makes this book practical for people across industries and business models to relate to the concepts and the techniques. It systematically shows how to do break-even analysis for any particular technology, as well as how to value large commercial projects. If you are in the business of saving the planet, you can't go wrong with this book! This book would be good for a one-semester graduate course. 1 of 1 people found the following review helpful. Welcome addition to sustainability technologies literature. By Dr. Edi Shivaji Nice book. Well written. With the current emphasis on sustainable technologies, students who are graduating in this area will find in this book a very welcome bag of tricks and tools to do a feasibility and cost-benefit analysis. One weakness of the book is that it does not show how to compare the sustainable technologies with "non-sustainable" technologies such as carbon based technologies. Effect on the environment needs to be taken as a benefit and included in the discounted cash flow analysis. This may be addressed in the second edition hopefully. My opinion is that it would be nice to show how do a comparative cost-benefit analysis between say solar power, nuclear power and hydro power technology and see which comes out better. This will encourage the students to come out in support of sustainable technologies on sound financial analysis.

Feasibility Analysis for Sustainable Technologies will lead you into a professional feasibility analysis for a renewable energy or energy efficiency project. The analysis begins with an understanding of the basic engineering description of technology in terms of capacity, efficiency, constraints, and dependability. It continues in modeling the cash flow of a project, which is affected by the installed cost, the revenues or expenses avoided by using the technology, the operating expenses of the technology, available tax credits and rebates, and laws regarding depreciation and income tax. The feasibility study is completed by discounted cash flow analysis, using an appropriate discount rate and a proper accounting for inflation, to evaluate the financial viability of the project. The elements of this analysis are illustrated using numerous examples of solar, wind and hydroelectric power, biogas digestion, energy storage, biofuels, and energy-efficient appliances and buildings.

About the Author Professor, Maharishi University