

ECO 605: Module Seven Case Study Guidelines and Rubric

Overview: The case studies in this course are designed to actively involve you in environmental economics reasoning and to help you apply the course principles to complex real-world situations. In the case studies, you will use data analysis to make informed recommendations and communicate in a professional manner.

Prompt: For this case study, you will use data, graphs, and tables to analyze the emissions of three firms. Each firm is currently emitting 10 parts per million (ppm) per week, so total emissions are 30 ppm per week. Suppose we wish to reduce total emissions by 50%, to 15 ppm per week. Analyze the given data and make a recommendation. Your submission should address the following critical elements:

1. **Enter the given data** and create charts in a spreadsheet tool such as Microsoft Excel.
2. Use the data to generate totals for ppm/cost using the **equiproportionate reduction** formula to decrease emissions.
 - a) Atomic Air total \$/ppm
 - b) Boomer total \$/ppm
 - c) CASADE total \$/ppm
3. Calculate a decrease using the **equimarginal principle** and satisfy the equimarginal rule to reduce total emissions by 50%, to 15 ppm per week.
 - a) Atomic Air total \$/ppm
 - b) Boomer total \$/ppm
 - c) CASADE total \$/ppm
4. **Compare the data** on each firm's equiproportionate reduction to the decrease of the equimarginal principle, including the marginal abatement costs in aggregate.
5. Write **recommendations** for policy makers with details on each firm.

Data												
Emissions (ppm/week)	10	9	8	7	6	5	4	3	2	1	0	Total PPM/Costs
Marginal Abatement Costs:												
AtomAir (\$/ppm)	0	4	8	12	16	20	24	28	36	46	58	
Boomer (\$/ppm)	0	1	2	4	6	8	12	20	24	28	36	
Casade (\$/ppm)	0	1	2	3	4	5	6	7	8	9	10	

Rubric

Guidelines for Submission: The case study must follow these formatting guidelines: double spacing, 12-point Times New Roman font, one-inch margins, and APA citations. Your submission should be one to two pages in length (not including cover page and references).

Instructor Feedback: This activity uses an integrated rubric in Blackboard. Students can view instructor feedback in the Grade Center. For more information, review [these instructions](#).

Critical Elements	Exemplary (100%)	Proficient (90%)	Needs Improvement (70%)	Not Evident (0%)	Value
Entering the Data	Meets "Proficient" criteria and extends with compelling analysis on the formulas used	Enters the data from table into a spreadsheet to complete the case study	Attempts to enter the data into the spreadsheet, yet two or more of the answers are incorrect	There is no data or does not enter in the correct data	15
Equiproportionate Reduction	Meets "Proficient" criteria and extends understanding by providing compelling analysis or formulas	Uses data to calculate the proper decrease using the equiproportionate reduction to complete this part of the case study	Attempts to enter the data into the spreadsheet, yet two or more of the calculations are incorrect	The data entered is incorrectly or equiproportionate reduction is incorrectly used	15

Equimarginal Principle	Meets "Proficient" criteria and extends the use of equimarginal principle on each firm to enhance the analysis	Calculates a decrease using the equimarginal principle and satisfies the equimarginal rule to reduce total emissions by 50%, to 15 ppm per week using the correct data	Attempts to make calculations using the data, but there is an error in use of the equimarginal principle or the reduction total	There are errors in the calculations of the data or equimarginal principle was not use	15
Comparing the Data	Meets "Proficient" criteria and extends analysis of the comparison to make compelling recommendations	Generates accurate aggregate marginal abatement costs by comparing data on each firm's equiproportionate reduction to the decrease of the equimarginal principle	Attempts to generate aggregate marginal abatement costs by comparing data, but there are one or two errors in the calculations or analysis	There is no analysis or proper use of the data in the comparison	15
Recommendations	Meets "Proficient" criteria and extends to include additional recommendations that enhance the narrative to the policy makers	Analyzes aggregate marginal abatement costs to make recommendations that influence policy makers based on your analysis of the data	Attempts to aggregate marginal abatement costs, but there is at least one data source not identified or a principle is not used correctly	There is no analysis or data used correctly to make accurate recommendations	30
Articulation of Response	Submission is free of errors related to citations, grammar, spelling, syntax, and organization and is presented in a professional and easy to read format	Submission has no major errors related to citations, grammar, spelling, syntax, or organization	Submission has major errors related to citations, grammar, spelling, syntax, or organization that negatively impact readability and articulation of main ideas	Submission has critical errors related to citations, grammar, spelling, syntax, or organization that prevent understanding of ideas	10
Earned Total					100%