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Sustainability in Supply Chains

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The purpose of this project was to find a way to make BASF Corporation's transportation network more sustainable and to reduce their carbon emissions. BASF is a chemical company whose goal is to be carbon neutral by 2050, so this project is intended to help them meet this goal. I was able to work directly with BASF's transportation team to gather data and discuss possible solutions. I used Lean Six Sigma methodology to define the problem, measure the current carbon emissions, analyze the data I gathered, suggest improvements, and ensure the changes can be controlled. I found that their less-than-truckload deliveries had the highest carbon emissions, therefore consolidation needed to be increased. During my analysis, I discovered the root cause. Hazardous and nonhazardous materials were not able to be consolidated, which resulted in many less-than-truckload-sized shipments. I also discovered that rail was the most environmentally friendly mode of transportation. After conducting my research, I was able to find a solution of using rail for the hazardous materials and using trucks for the nonhazardous materials. I used an example route to determine how much the carbon emissions would be reduced by. In the end, I found that my solution would be successful and carbon emissions could be reduced by 24.7%. With the increasing importance of sustainability and the fear of climate change, it is necessary for global companies like BASF to make changes and reduce their carbon footprint. This project is significant because it will help BASF make progress towards this goal.