Problem Statement

The problem is to reduce energy consumption in a residential setting by 20% within the next year. The goal is relevant because it will help reduce energy bills, lower energy consumption, and reduce carbon emissions.

Scope

The scope of the problem is limited to a single residential setting. We will focus on identifying the causes of high energy consumption and implementing energy-efficient measures to reduce energy consumption.

Data Collection

To support our analysis, we will gather data on the current energy consumption of the residential setting, including the energy usage of individual appliances and devices. We will also collect data on the energy efficiency of the appliances and devices and the energy consumption patterns of the residents.

Potential Causes

Potential causes of high energy consumption in a residential setting include inefficient appliances, poor insulation, and wasteful energy consumption habits.

Analysis

We will evaluate options such as upgrading to energy-efficient appliances, improving insulation, and educating residents on energy-efficient habits. Based on our analysis, we will select the most effective and feasible solution that meets our SMART criteria.

Solution

We recommend upgrading to energy-efficient appliances and improving insulation to reduce energy consumption by 20% within the next year. We also provide recommendations for energy-efficient habits that residents can adopt to further reduce energy consumption.

Conclusion

In conclusion, reducing energy consumption in a residential setting is an important step towards reducing energy bills, lowering energy consumption, and reducing carbon emissions. By implementing energy-efficient measures such as upgrading to energy-efficient appliances, improving insulation, and adopting energy-efficient habits, we can achieve our goal of reducing energy consumption by 20% within the next year.