**Singapore Recycling and Waste Management**

**Introduction**

In this project, I will analyze the energy savings achieved in Singapore through recycling of different waste materials, including plastics, paper, glass, ferrous metal, and non-ferrous metal. I will utilize the Singapore NEA Energy Savings dataset from Kaggle to analyze the total garbage collection and recycling rate. Additionally, I will incorporate the latest data from the 2020 waste statistics and overall recycling report obtained from the official website, ensuring that our analysis includes the most recent statistics. To determine the energy potential, I will refer to key information provided by Greentumble.

**Data Cleaning and Preparation**

Before delving into the analysis, we need to clean and prepare our data. The Singapore NEA Energy Savings dataset contains information collected from various sources, resulting in different material names. By integrating the latest waste statistics from 2020, we can conduct a comprehensive analysis. This process will involve calculating the energy saved each year from 2003 to 2020 based on the five waste types mentioned above (plastics, paper, glass, ferrous metal, and non-ferrous metal).

Stay tuned for the detailed analysis and findings!

Conclusion:

The analysis of Singapore's recycling and waste management efforts reveals significant energy savings achieved through the recycling of plastics, paper, glass, ferrous metal, and non-ferrous metal.

From 2016 to 2020, the total energy saved each year demonstrates a consistent commitment to sustainability. In 2016, the energy savings amounted to 5043.54 GWh, followed by 4802.68 GWh in 2017. The trend continued with a peak energy savings of 5100.73 GWh in 2018. Although there was a slight decrease in 2019, with 4606.34 GWh saved, the efforts remained commendable. In 2020, despite the challenging circumstances, a substantial amount of energy was still saved, reaching 3598.42 GWh.

These figures highlight the effectiveness of Singapore's recycling and waste management initiatives in reducing energy consumption and minimizing environmental impact. The consistent focus on recycling across various waste material types showcases the commitment to a sustainable and greener future.

It is crucial to continue promoting and enhancing recycling practices to further optimize energy savings and resource conservation. These findings serve as a testament to the positive impact of recycling on both the environment and energy sustainability.

By leveraging these insights, policymakers, organizations, and individuals can continue to implement strategies that contribute to Singapore's overall waste reduction goals, energy efficiency, and environmental stewardship.