

XPRIZE: CAN TWITTER FACILITATE?

MSc Information Technology, Social Media and Web Science

Introduction and Research

XPRIZE Carbon Removal is aimed at tackling the biggest threat facing humanity - fighting climate change and rebalancing Earth's carbon cycle. Funded by Elon Musk and the Musk Foundation, this \$100M competition is the largest incentive prize in history, an extraordinary milestone. The climate math is becoming clear that we will need gigaton-scale carbon removal in the coming decades to avoid the worst effects of climate change. The International Panel on Climate Change (IPCC) estimates the need at approximately 10 gigatonnes of net CO₂ removal per year by the year 2050 in order to keep global temperature rise under 1.5 or 2C. As governments, companies, investors, and entrepreneurs make plans to meet this challenge, it is clear that we will need a range of carbon removal solutions to be proven through demonstration and deployment to complement work that is already underway. If humanity continues on a business-as-usual path, the global average temperature could increase 6°C by the year 2100.

Research Question

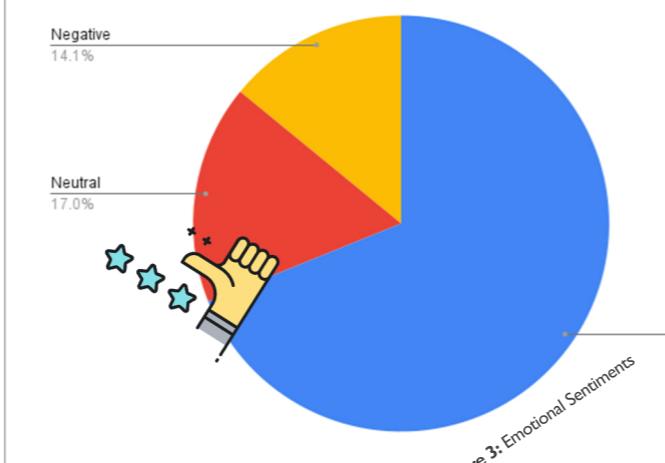
Investigate the common themes and characterises of Twitter users who advocate climate change awareness and rebalancing Earth's carbon cycle whilst identifying if there is any indication for support surrounding the 13th sustainable development goal?

Methodology



Using Tags v6.1.9.1 the terms 'biochar', 'soil', and 'agriculture' was used to collected tweets which had been previously posted over a 7-day period. Data was collected through the terms forming hashtags (#biochar, #soil, #agriculture). Albeit, Learn Monkey machine learning application was used to create a model to train text on the following tags which were formed through categorising four hundred and twenty-six tweets: (Agriculture, Biochar, Biocontrol, Business, Climate Change, Energy, Environment, Farming, Food, Future Gen, Green, Negative, Neutral, Positive, Residential, Save Soil). An accuracy of level of 78% was reached whilst the F1 score of 85% was established for overall text labelling. (as shown in Figure 1). Focusing on training the model it was found that the phrases 'Environment, Agriculture, Save Soil, and Food' were the phrases the algorithm gained the highest confidence in tag allocation (as shown in Figure 2).

MODEL TRAINING CONFIDENCE LEVEL



Emotional Sentiment



FEELINGS SURROUNDING SENTIMENTS

