

Design and Development of a Kinetic Power Pack
(Technical Report)

Climate Change Skeptics in the United States
(STS Research Paper)

An Undergraduate Thesis Portfolio
Presented to the Faculty of the
School of Engineering and Applied Science
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Mechanical Engineering

by

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Preface

Understanding the intersection of culture, politics, and technology is the first step towards slowing human caused climate change in order to abate catastrophic consequences.

How can human motion be used to charge a smartphone? Such a device could open the door to other applications of human power and expand the possibilities of renewable energy. Kinetic phone chargers on the market are too large and prohibitively expensive. Our team aimed to make a comfortable and affordable device. Faraday's and Lenz's laws provided theoretical characterizations of the magnetic flux; SolidWorks and 3D printers were used to carry out prototype testing. We succeeded in creating a kinetic phone charger at a lower cost than those now on the market. However, we did not determine the best way to maximize magnetic oscillations; this should be a subject of future research.

How do climate skeptics garner credibility? Despite efforts to solve the climate crisis, the fight to preserve the Earth remains an uphill battle due in part to societal barriers. Climate skeptics influence climate policy and public support for climate action. Skeptics gain credibility by presenting themselves as fighting for the good of the country or by leaning on scientific inaccuracies. Think tanks and the fossil fuel industry portray climate legislation as an economic disaster and attack the accuracy of climate scientists. Unorganized participants either doubt science, citing past errors, or see climate change as a political scheme. These findings indicate that climate change must be depoliticized and public trust rebuilt before the threat can be managed.

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