[Name of the Writer]

[Name of Instructor]

[Physics]

[Date]

Turning Greenhouse Gasses into Fuel

# Introduction

In the modern industrialized world, climate change is a serious issue due to the high prevalence of global warming. Burning of fossils fuel leads towards the excessive emission of greenhouse gases that are polluting the overall atmosphere. Majority of scientists and politicians strongly believe that greenhouse gases are the major reason behind global warming and climate change. However, some politicians are not willing to accept that human-induced changes are the leading factor in climate change. In order to combat the entire scenario of climate change, researchers at Rice University are developing a catalytic reactor to use emitted greenhouse gases in an effective manner. Here, the focus is to evaluate the work of Rice University’s researchers to turn greenhouse gasses into fuel.

**Discussion**

The catalytic reactor produced by the researchers of Rice University uses greenhouse gasses such as carbon dioxide as its feedstock. The basic purpose of this catalytic reactor is to re-purposes carbon dioxide as purified formic acid (Srinivasnpara 2). Researchers have developed a solid-state electrolyte and a two-dimensional bismuth catalyst. In order to overcome the issue of salty water due to the production of formic acid, these solid electrolytes are used. Sulfonic acid ligands are used to coat the solid electrolyte that stabilizes the catalyst. It is notable to mention that the reactor takes less time in order to introduce water in the product chamber, which makes it more efficient and concentrated. It has been observed with the help of X-ray absorption spectroscopy that the reactor has the potential to run continuously for more than 4 days, which indicates its effectiveness (ScienceDaily para 13).

**Conclusion**

In a nutshell, the development of catalytic reactor by the researchers of Rice University demonstrates promising results regarding the conversion of greenhouse gases into fuel. The presented proposal by the researchers of Rice University justifies itself with the help of various principles of physics such as the use of solid electrolyte to overcome the issue of salty water during the entire reaction. Efficient shreds of evidence of prototype make it a potential source to overcome the issue of climate change and atmospheric pollution.

Works Cited

Rice University. (2019). "Reactor turns greenhouse gas into pure liquid fuel: Lab's 'green' invention reduces carbon dioxide into valuable fuels." ScienceDaily. Retrieved from www.sciencedaily.com/releases/2019/09/190903084035.htm

#### Srinivasan, Ashwin. (2019). Turning greenhouse gas into fuel. Thetartan.org. from <http://thetartan.org/2019/9/9/scitech/greenhouse-fuel>