## **Project A.R.I.E.S**

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Project A.R.I.E.S (Air Refinement Induced Electric System) is a carbon capture device, which applies a chemical reaction to remove carbon dioxide from the atmosphere. Air is cycled through the machine and upon exit, it has a reduced greenhouse gas content, and produces a liquid which has a number of useful applications.

$$2NaOH_{(aq)} + \ CO_{2(g)} \to Na_2CO_{3(aq)} + H_2O_{(l)}$$

When Sodium Hydroxide (NaOH) is reacted with Carbon Dioxide ( $CO_2$ ), it produces water, and Sodium Carbonate ( $Na_2CO_3$ ) which has multiple commercial applications, such as the



production of detergents, soaps, and paper. Sodium Carbonate also has household applications, as it can be used as a household cleaner, or as a pesticide, stopping the growth of unwanted fungi and weeds.

## **Product Integration**

On its own, our product is just a science experiment, but when integrated into other established fields, it can truly hit its stride, having a meaningful positive impact on the world. If factories run the gas they emit through our

machines, they will produce useful resources as opposed to harmful poison. If attached to engine exhausts, vehicles could produce liquid discharge instead of greenhouse gasses, and the exhaust solution could become a free refill for various household cleaners or pesticides.

## **Product Application**

Project A.R.I.E.S can be a silver bullet in the war against climate change. With our product, you can clean the air we breathe, and then clean your house. Our product is a weapon against greenhouse gasses, which can be wielded by companies and individuals alike. Choosing not to invest in A.R.I.E.S is choosing to turn a blind eye towards the wellbeing of the world we live in.