

## Extracting the Atmospheric Carbon Dioxide and Convert It into Useful Minerals at the Room Conditions

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**Abstract :** Elimination of carbon dioxide (CO<sub>2</sub>) gas from our atmosphere is very important but complicated, and since there is always an increase in the gas amounts of the other greenhouse ones in our atmosphere, causes by both some of the human activities and the burning of the fossil fuels, which leads to the Global Warming phenomena i.e., increasing the earth temperature to a higher level, creates desertification, tornadoes and storms. In our present research project, we constructed our own system to extract carbon dioxide directly from the atmospheric air at the room conditions and investigated how to convert the gas into a useful mineral or Nano scale fibers made of carbon by using several chemical processes and chemical reactions leading to a valuable building material and also to mitigate the environmental negative change. In the present water pool system (Carbon Dioxide Domestic Extractor), the ocean-sea water was used to dissolve the CO<sub>2</sub> gas from the room and converted into carbonate minerals by using a number of additives like shampoo, clay and MgO. Note that the atmospheric air includes CO<sub>2</sub> gas has circulated within the sea water by air pump connected to a perforated tubes fixed deep on the pool base. Those chemical agents were mixed with the ocean-sea water to convert the formed acid from the water-CO<sub>2</sub> reaction into a useful mineral. After we successfully constructed the system, we did intense experiments and investigations on the CO<sub>2</sub> gas reduction level and found which is the optimum active chemical agent to work in the atmospheric conditions.

**Keywords :** global warming, CO<sub>2</sub> gas, ocean-sea water, additives, solubility level

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