

ABSTRACT

METHOD AND SYSTEM FOR REMOVING POLLUTANTS AND GREENHOUSE GASES FROM A FLUE GAS

The invention relates to a method for removing pollutants and greenhouse gases SO_2 , NO_x , and CO_2 from a flue gas stream, comprising the steps of: a) contacting natural seawater with a flue gas in a counter flow, co-current flow or cross flow direction for a given period of time to remove SO_2 from the flue gas; b) contacting treated alkaline water to the flue gas in a counter flow, co-current flow or cross flow direction to remove CO_2 and NO_x from the flue gas and generate oxygen and carbon particles; and c) collecting or emitting the flue gas after step b). The invention also relates to a system for removing pollutants and greenhouse gases SO_2 , NO_x , and CO_2 from a flue gas stream. The method and the system of the invention are significantly more economical and convenient and do not cause harm to the environments. The invention also exhibits a novel and unique feature that elemental carbon and oxygen are generated as final products and can be recovered as an energy source.

Figure 1.