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Innovative CHP engine with atmospheric pressure carbon capture plant by using Methanol

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Extended Abstract

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Abstract Summary

Methanol is very competitive even if compared with hydrogen, it is well known that the energy content of hydrogen is much more than methanol but the methanol production process is a sink for CO2 to be absorbed. The most tricky thing that Methanol isn't only a fuel source rather than is can be used as a chemical absorber for CO2. Since decades the solubility of CO2 in Methanol has been tested in different temperature and pressure scales to evaluate the efficient points on which Methanol can be an efficient absorber medium for CO2. The thermodynamic aspects, Henry constant and mass transfer characteristics are playing a critical role in in the process analysis of CO2 absorption system whether in pre-combustion or post combustion streams. In literature many research can be found that have investigated but most of them considering elevated pressure as a main key factor for the process or neglect it at all. This research is dedicated to model and build an absorption system that can achieve an efficient absorption process of CO2 by using Methanol at atmospheric pressure.