CO2 Capture and Amine Solvent Rigeneration in Sotacarbo Pilot Plant

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The removing CO2 from fossil fuel based power plants has got increased interest due to environmental reasons. CO2 absorption by chemical solvents is an attractive and commercial applicable CO2 capture technology.
In that field ENEA together with Sotacarbo are developing different activities on their pilot plants to test the use of gasification technologies for the combined production of hydrogen and electric power in medium and small scale commercial plants and to test CO2 absorption and regeneration technologies. This paper reports the first results achieved during preliminary experimentations carried out to assess the CO2 absorption performance with monoethanolamine and MDEA.
Different plant operating conditions and different L/G ratio have been tested. The absorption CO2 efficiency has been evaluated and the main parameters of the regeneration process are discussed.