Optimal Heat Usage of Carbon Capture and Storage System (Plant and Capture Chain)

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Carbon Capture and Storage System (CCS) is the process of capturing waste carbon dioxide from fossil fuel power plants and transporting it to where that carbon dioxide can be used. Though many studies are conducted, there is no global optimal point or condition for CCS with economic feasibility and efficiency due to complexity and variation of it. This paper investigates heat integration between plant model and carbon capture unit to find out optimal heat usage maximizing economic feasibility. Instead of focusing on special type of plant and carbon capture model, general plant and carbon capture unit is handled in overall perspective with mathematical model and simulation program.