

Abstract

A method and an apparatus for generating synthesis gas using hydrocarbons and water are described. In further embodiments of the method and the apparatus, synthesis gases having any desired CO/hydrogen ratio and/or synthetic functionalised and/or non-functionalised hydrocarbons are generated. With this method, a hydrocarbon containing fluid may be transformed into a synthesis gas having variable hydrogen content without generating significant amounts of CO₂. Further, hydrogen and different forms of carbon may be obtained as by-products.