

A process for the production of hydrogen is described comprising the steps of subjecting a gaseous mixture comprising a hydrocarbon and steam and having a steam to carbon ratio of at least 2.6:1, to steam reforming in a gas-heated reformer followed by autothermal reforming with an oxygen-rich gas in an autothermal reformer to generate a reformed gas mixture, increasing the hydrogen content of the reformed gas mixture by subjecting it to one or more water-gas shift stages in a water-gas shift unit to provide a hydrogen-enriched reformed gas, cooling the hydrogen-enriched reformed gas and separating condensed water therefrom, passing the resulting de-watered hydrogen-enriched reformed gas to a carbon dioxide separation unit to provide a carbon dioxide gas stream and a crude hydrogen gas stream, and passing the crude hydrogen gas stream to a purification unit to provide a purified hydrogen gas and a fuel gas, wherein the fuel gas is fed, as the sole fuel, to one or more fired heaters used to heat one or more process streams within the process.