A method for operating a blast furnace for producing of pig iron, comprising the steps of (a) heating a first stream of steam in a first heater, before or after having been mixed with an oxygen source selected from oxygen and oxygen-enriched air, to provide a first heated stream of oxygen-enriched steam, (b) heating a first stream of blast furnace gas from the blast furnace and a first stream of natural gas in a second heater, before or after being mixed together, to provide a heated carbon feed stream, (c) feeding the first heated stream of oxygen-enriched steam and the heated carbon feed stream either as a combined stream or separately to a catalytic partial oxidation reactor to produce a stream of syngas, and (d) feeding said stream of syngas to the shaft of the blast furnace.