

Title (en)
METHOD AND APPARATUS FOR THE PRODUCTION OF SYNTHESIS GAS

Title (de)
METHODE UND VORRICHTUNG ZUR HERSTELLUNG VON SYNTHESSEGAS

Title (fr)
PROCEDE ET APPAREIL DE PRODUCTION DE GAZ DE SYNTHESE

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Application
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Abstract (en)
[origin: WO9955618A1] The invention relates to a method and an apparatus for forming synthesis gas from biomass and/or residues. In a biomass gasifier and/or residues gasifier, synthesis gas is formed, part of which is combusted, the combustion heat being transferred to a reformer. In the reformer, a fossil hydrocarbon is converted into synthesis gas which is mixed with the synthesis gas formed in the gasifier. The method and apparatus according to the invention afford a high cold-gas yield, and the production of CO₂ per kilogram of synthesis gas (H₂ and CO) produced is low. Owing to the low degree of integration of the gasifier and the reformer, the H₂/CO ratio can be adjusted over a wide range. The apparatus according to the invention is relatively simple and reliable, given that the only connection between the reformer and the outlet of the gasifier is via a branch line. Coupling the gasifier and the reformer according to the invention permits a gradual transition from the use of fossil fuel to a more sustainable hydrocarbon source. Moreover, the quality of the synthesis gas formed in the biomass gasifier can be improved by mixing with the synthesis gas from the reformer, and control of the feed streams allows a variable syngas composition (H₂/CO ratio) to be achieved.

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