

Abstract**THERMAL-CHEMICAL UTILIZATION OF CARBON-CONTAINING MATERIALS,
IN PARTICULAR FOR THE EMISSION-FREE GENERATION OF ENERGY**

In a process according to the invention for the generation of energy and/or hydrocarbons and other products by utilization of carbonaceous materials, in a first process stage (P1) the carbonaceous materials are supplied to and get pyrolysed, wherein pyrolysis coke (M21) and pyrolysis gas (M22) are formed. In a second process stage (P2), the pyrolysis coke (M21) from the first process stage (P1) is gasified, wherein synthesis gas (M24) is formed, and slag and other residues (M91, M92, M93, M94) are removed. In a third process stage (P3), the synthesis gas (M24) from the second process stage (P2) is converted into hydrocarbons and/or other solid, liquid, and/or gaseous products (M60), which are discharged. The three process stages (P1, P2, P3) form a closed cycle. Surplus gas (M25) from the third process stage (P3) is passed as recycle gas into the first process stage (P1), and/or the second process stage (P2), and pyrolysis gas (M22) from the first process stage (P1) is passed into the second process stage (P2), and/or the third process stage (P3),

(Figure 5)