



In a process for the treatment of particulate matter by fluidisation the particulate matter is held and treated in a fluidised bed reactor (1, 1', 1'') with the treatment gas flowing from the bottom to the top. To minimise consumption of the treatment gas, and to reduce the entrainment of fines by the treatment gas, particulate matter with a wide ranging grain size distribution and a relative large content of fines is used and the empty pipe flow rate of the treatment gas in the fluidised bed (2) is kept smaller than the flow rate required for the fluidising of the larger particles of the particulate matter. The reduced material is taken via a transport pipe (6) to a melting gasifier (25) where in a melting gasifying zone (26) a reduction gas with CO and H_2 content is produced from carbon and oxygen-containing gas which is introduced into the fluidised bed reactor (1'') via a feed pipe (27).