Abstract:

The invention relates to reduction of the content of NO_X and N_2O in the offgas (flue gas) of an NH_3-operated firing system integrated into a system for catalytic decomposition of NH_3 to N_2 and H_2. For this purpose, the firing system preferably comprises a combustion device in which NH_3 is combusted to generate heat of combustion, and an NH_3 decomposition device which is in heat exchange with the combustion device and in which NH_3 is decomposed catalytically to N_2 and H_2. The heat required for the catalytic decomposition of NH_3 in the NH_3 decomposition device is provided by the combustion of NH_3 in the combustion device. The combustion device preferably comprises at least a burner and a combustion chamber. The firing system is preferably configured analogously to a primary reformer.