Link / QR Code	https://e2023.drustvo-termicara.com/papers/download/11

Paper Id	E2023-041
How to cite	*Milan M. Petrovic, Vladimir D. Stevanovic, Sanja S. Milivojevic, Milica M. Ilic, "UTILIZATION OF THE FLUE GAS WASTE HEAT BY THE LOW-PRESSURE ECONOMIZER AT 350 MWE LIGNITE-FIRED POWER PLANT", Full Papers Proceeding of International Conference "Power Plants 2023", November 2023, Zlatibor Serbia, ISBN 978-86-7877-038-8, pp. 675 - 680*
Title	**UTILIZATION OF THE FLUE GAS WASTE HEAT BY THE LOW-PRESSURE ECONOMIZER AT 350 MWE LIGNITE-FIRED POWER PLANT**
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Abstract	Potential for the waste heat utilization in coal-fired thermal power plants that are in operation for a long period of time is reflected in an increased temperature of the flue gas at the exit of the regenerative air heater. After a long period of operation of the existing steam units, the flue gas temperature exceeds the design value and is around 170 °C. In thermal power plants where a flue gas desulphurization plant has been built, the flue gas must be cooled at the absorber inlet to approximately 70 °C due to the efficiency of the desulphurization process, and thus the waste heat is irreversibly lost to the environment. Given the large temperature difference between the flue gas temperature at the boiler outlet and the temperature at the absorber inlet, as well as the large flue gas flow, there is a significant potential for the utilization of this waste heat. This potential can be used to heat the condensate from the steam power plant condensate line, where due to reduced steam extractions from the low-pressure turbine, the unchanged steam unit power is maintained with the lower fresh steam flow rate or the production of electricity increases without additional fuel consumption. The paper presents a technical solution for the utilization of waste heat in a low-pressure economizer at the 350 MWe lignite-fired thermal power plant. The energy balancing of the steam unit with installed low-pressure economizer was performed and the increase in net unit efficiency was determined by applying the described solution in relation to the design conditions. It is shown that the net efficiency of the steam unit increases by 1.6 percentage points. About 105 GWh of electricity is produced by the flue gas waste heat utilization, which gives the annual reduction in coal consumption of approximately 147.000 tons, as well as the annual reduction in CO2 emissions of approximately 108.000 tons.
Keywords	waste heat, lignite-fired thermal power plant, low-pressure economizer, efficiency, decarbonization

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