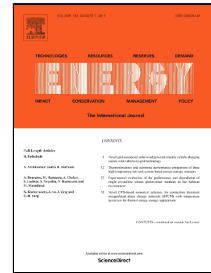


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# An Exergy-Based Study on the Relationship between Costs and Environmental Impacts in Power Plants

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## Abstract

Exergy-based (exergetic, exergoeconomic and exergoenvironmental) analyses, are used for designing, assessing and improving energy conversion systems. In an exergoeconomic analysis, thermodynamic inefficiencies – represented by exergy destruction – are used in combination with investment costs to calculate the “cost-optimal” layout of a plant. Analogously, in an exergoenvironmental analysis, the aim is to minimize the total environmental impact of a plant. Until today exergoeconomic and exergoenvironmental analyses have been used as separate and

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