Technical and Environmental Assessment of Lignite-fired Electricity Generation in Greece

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Abstract
The electricity generation system of Greece relies heavily on conventional fossil fuel thermoelectric power plants. A high proportion of the electricity generated in Greece, in particular, comes from lignite-fired power plants. The purpose of this paper is to assess the performance of lignite-fired electricity power plants that are currently operating in Greece. Electricity generation units are considered as linear multi-input/-output systems. A standard data envelopment analysis tool is utilized in order to evaluate their overall efficiency. Technical and environmentally adverse performance indices are employed. Computational results included in the paper are presented and discussed in detail. Implied future electricity generation policies are also identified.

Keywords
Electricity generation system in Greece, Lignite-fired power generation, Environmental assessment, Technical assessment.

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