

# Numerical Investigation of Pressure Recovery in an Induced Draught Air-Cooled Condenser for CSP Application

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The performance of a 20-fan induced draught air-cooled condenser (ACC) is enhanced by increasing the airflow rate and heat rejection rate of the ACC. This is achieved through pressure recovery, i.e. the conversion of dynamic pressure into static pressure, by attaching diffusers to the fan outlets of the ACC. The performance of the five-by-four ACC is analysed under windless and windy conditions. Under windless conditions, the diffusers increase the volumetric and thermal effectiveness of the ACC by ~2.4 and 2.0%, respectively. Under windy conditions, these improvements change to 0.8–1.9% and 0.1–4.7%, respectively.