

## Stationary Gas Turbines in Power Generation: Past, Present and Future Challenges

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**Abstract :** In the next decades, the thermal power generation segment will survive only if it achieves deep mutations, including drastical abatements of CO<sub>2</sub> emissions and strong efficiency gains. In this challenging perspective, stationary gas turbines appear as serious candidates to lead the energy transition. Indeed, during the past decades, these turbomachines have made brisk technological advances in terms of efficiency, reliability, fuel flex (including the combustion of hydrogen), and the ability to hybridize with regenerables. It is, therefore, timely to summarize the progresses achieved by gas turbines in the recent past and to examine what are their assets to face the challenges of the energy transition.

**Keywords :** energy transition, gas turbines, decarbonization, power generation

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