

# A Literature Review on Optimal Energy Scheduling for Data Center

Tarun Kumar S<sup>1</sup> and Sathyavathi. S<sup>2</sup>

Post Graduate Student, MTech Data Science, Department of Information and Technology<sup>1</sup>  
Assistant Professor (SRG), MTech Data Science, Department of Information and Technology<sup>2</sup>  
Kumaraguru college of Technology, Coimbatore, Tamil Nadu, India

**Abstract:** This project provides an overview of the current state of research on optimal energy scheduling for data centres with energy networks, including combined cooling, heating, and power (CCHP) and demand response. The review covers the latest research trends, including the integration of renewable energy sources, energy storage, and energy hubs into data centre energy systems. Various mathematical modelling techniques, optimization algorithms, and simulation methods used to optimize energy scheduling are also discussed. The review highlights the benefits of optimal energy scheduling, including energy and cost savings, improved energy efficiency, and reduced greenhouse gas emissions. However, the review also identifies challenges associated with the implementation of optimal energy scheduling, such as the need for accurate forecasting models and the trade-offs between energy efficiency and other performance metrics. In conclusion, the review calls for further research to address these challenges and to identify new opportunities for optimal energy scheduling in data centres.

**Keywords:** Optimization Algorithm, Simulation methods, mathematical modelling Techniques, PSO techniques

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