

# ABSTRACT

## Microgrids and Pricing of Electricity

Prof. Dr. F. ıgdem elik

*Department of Economics*

*Faculty of Economics and Business Administration*

*İstanbul Okan University*

*Tuzla Akfırat Campus*

*34959 Tuzla - İstanbul - Turkey*

*cigdem.celik@okan.edu.tr*

*Abstract* — Microgrids are becoming more and more popular around the globe. Microgrids are being implemented as a showcase of Smart Grid technologies and as a means of providing security (both cyber and physical) for industrial and military bases, and as a means of supplying customers in remote rural areas. Smart Grid technologies are typically perceived as the integration of the information infrastructure with the physical electricity delivery infrastructure. Their main purpose can be summarized as integration of renewable distributed generation and electric transportation while ensuring more reliable and dynamic operations and planning of the distribution networks. Smart Grid technologies find a natural home within the implementation of microgrids. This paper will focus on the pricing of electricity within and to microgrids, and address the roles of the legislative and regulative organizations to empower such projects.

**Keywords:** Microgrids, Electric Power Markets, Locational Marginal Pricing.

Microgrids constitute a serious contender for making up the gap of energy demand will at least double in the developing countries in the next two decades. On the other hand, Smart Grid technologies have made implementation of microgrids financially feasible and operationally viable. Microgrids can also mitigate the complexities introduced by green renewable generation. These advantages make microgrids very attractive. However, the pricing of electricity for the power they buy from the central grid and sell introduces a complex problem for the engineers and economists. One pricing mechanism is offered in this paper.