

## عنوان مقاله:

Optimal operation of a micro-grid considering economic-environmental objectives

## محل انتشار:

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## خلاصه مقاله:

Supplying electrical energy locally by distributed generation in low voltage systems, has been leading to the formation of the concept of micro-grids. In fact micro-grid is a part of the distribution grid that in addition to the load, it includes small generation units. In grid connected micro-grid, it is possible to exchange power with the upstream grid, meaning that in addition to supplying the local loads, DG units along with the energy storage system can inject power to the upstream grid. Also when the supply of local loads by DG units is not feasible or cost-effective, the power will insert to the micro-grid through the upstream grid. This paper studies the optimal operation of a micro-grid considering different objectives such as minimizing the operating cost and reducing of greenhouse gas emissions subject to the generators' and upstream grid's constraints. In this study, power exchange with upstream grid is possible. Assuming the load information of a typical micro-grid, the proposed model is implemented in GAMS software, and it is solved using solver Baron by MINLP method. The results show that simultaneously reducing pollution and operating costs will causes changing in commitment schedule of units

## کلمات کلیدی:

Micro-grid, renewable energy resources, optimal operation, greenhouse gases

## لینک ثابت مقاله در پایگاه سیویلیکا:

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