

عنوان مقاله:

A multi-objective optimization model for MSW to energy supply chain design

محل انتشار:

اولین کنفرانس بین المللی بهینه سازی سیستم ها و مدیریت کسب و کار (سال: 1396)

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خلاصه مقاله:

Selection and locating the appropriate technology are the most important decisions in municipal solid waste (MSW) optimal management context. Since many criteria affect such decisions, using multi-criteria decision-making tools (MCDM) can be effective and appropriate. On the other hand, development of a renewable energy system as a solution to deal with the increasing energy consumption and waste production is of great importance in developed and developing countries. The objective of this research is to represent an effective supply chain design for managing MSW and producing electrical energy from it. A multi-criteria decision making analysis has been performed for MSW to electricity conversion technology selection and a multi-objective mixed integer linear programming model considering profit and greenhouse gas (GHG) emissions objectives have been represented for locating an MSW to electricity power plant. The model's viability is explored through a case study in Mazandaran province of Iran and the results are reported.

کلمات کلیدی:

municipal solid waste, multi-criteria decision making, TOPSIS, LP-metric, incineration, bioenergy

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