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providing a systematic model for determining effective factors on grain-based biofuel production as a renewable energy resource in iran

Sepideh Aghajani[1, 2]

1 School of Industrial Engineering and Engineering Optimization Research Group, College of Engineering, University of Tehran, Tehran, Iran
2 Tehran regional Electric Company(TREC)

Aghajani68@ut.ac.ir

Abstract-This study deals with the modeling of the grain-based biofuel production in Iran in order to forecast future projections based on rural economic development and food and crop productions variables that have consideration impact on rural income, using regression analyses and genetic algorithms (GA). The results show that regression predicted the grain-based biofuel production better than GA and also grain-based biofuel production in Iran increase in the future. Moreover increasing biofuel production could cause decrease in food production and higher prices of food. To cope with this problem government in Iran must be done prediction operations.

Keywords :grain-based biofuel production, Regression model, Genetic algorithm.

1.Introduction

Worldwide energy consumption is rising fast because of the increase in human population, continuous pressures for better living standards, emphasis on large-scale industrialization in developing countries and the need to sustain positive economic growth rates. Given this fact, a sound forecasting technique is essential for accurate investment planning of energy production/generation and distribution. Energy is a vital input for the economic and social development of any country. Strong population growth and rapid urbanization in Iran have played an important role in energy consumption. Negative environmental impacts of fossil fuels and increasing energy consumption is significant concerns of mankind. This situation has caused the diffusion and technical development of renewable energy alternatives (Ibrahim Iskin, 2012). Renewable Energy Sources (RES) is the solution for atmospheric