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An ensemble CRT, RVFLN, SVM method for estimating propane spot price

(Conference Paper)

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Abstract

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In this paper, we propose an ensemble of the CRT-RVFLN-SVM (Classification and Regression Tree (CRT), Random Variable Functional Link Neural Network (RVFLN), and Support Vector Machine (SVM)) to improve robustness and effectiveness in estimating propane spot price. The propane spot price data which are collected from the Energy Information Administration of the US Department of Energy and Barchart were used to build an ensemble CRT-RVFLN-SVM model for the estimating of propane spot price. For the purpose of evaluation, the constituted intelligent computing technologies of the proposed ensemble methodology in addition to Multilayer Back-Propagation Neural Network (MBPNN) were also applied to estimate the propane spot price. Experimental results show that the proposed ensemble CRT-RVFLNSVM model has improved the performance of CRT, RVFLN, SVM, and MBPNN. The can help to reduce the level of future uncertainty of the propane spot price. Propane investors can use our model as an alternative investment tool for generating more revenue because accurate estimations of future propane price implies generating more profits. © Springer International Publishing Switzerland 2015.

Author keywords

CRT Estimation Propane Spot Price RVFLN SVM

Indexed keywords

Engineering controlled terms: Backpropagation Cathode ray tubes Costs Economics Estimation Information systems Intelligent computing Investments Neural networks Support vector machines

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Classification and regression tree

Energy Information Administration

Functional link neural network

RVFLN Spot price

SVM

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