

## Review Form 1.7

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_95902
Title of the Manuscript:	Combined model based on LASSO and WOA for natural gas consumption forecast
Type of the Article	Original Research Article

### General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalarjom.com/index.php/ARJOM/editorial-policy> )

### PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Compulsory</b> REVISION comments</p> <p>1. <b>Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</p> <p>2. <b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</p> <p>3. <b>Is the abstract of the article comprehensive?</b></p> <p>4. <b>Are subsections and structure of the manuscript appropriate?</b></p> <p>5. <b>Do you think the manuscript is scientifically correct?</b></p> <p>6. <b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p> <p><b>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</b></p>	<p>1. The paper studied a very important and actual problem: energy shortages appeared in Europe. The author combines Least Absolute Shrinkage and Select Operator model with Whale Optimization Algorithm, uses the NAR model to reconstruct the phase space of the original time series, and performs a 5-step forward forecast, to predict the consumption of natural gas. It is studied the model to make forecasts on a German monthly natural gas consumption dataset. The author compares the results of WOA-LASSO with other five other WOA-based hybrid models and Cross-Validation based models for prediction results, to found that WOA-LASSO has the smallest MAPE in each step of the 5-step prediction, and the numerical results are between 8.273% and 9.867%. Comparing WOA with the conventional optimization scheme Cross-Validation, it is proved that WOA can obtain better model hyperparameters, which can effectively enhance the generalization performance and prediction accuracy of the model.</p> <p>2. <b>The title is well chosen, suggesting the theme of the work.</b></p> <p>3. <b>The abstract describes the results of the paper.</b></p> <p>4. <b>The paper has a good structure.</b></p> <p>5. <b>The obtained results show that the manuscript is correct scientifically.</b></p> <p>6. <b>The references are good chosen, the author can find recent papers regarding the studied subject.</b></p>	
<p><b>Minor</b> REVISION comments</p> <p>1. <b>Is language/English quality of the article suitable for scholarly communications?</b></p>	The writing is acceptable.	
<p><b>Optional/General</b> comments</p>	The results are new, correct and detailed. The methods are well described. The discussion and conclusions are adequately supported by the data. The paper requires a minor revision: to use recent references.	

### PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

### Reviewer Details:

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