

[Review Form 2](#)

Book Name:	Current Approaches in Engineering Research and Technology
Manuscript Number:	Ms_BPR_2378
Title of the Manuscript:	Experimental study on waste heat recovery system of an internal combustion engine using thermoelectric technology
Type of the Article	Book chapter

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This article proposes an interesting concept of using the heat of the exhaust gases to electrical energy in an automotive. The concept involves improvement in the energy utilisation in an automotive which is crucial in the current scenario. This can be considered as one of the green concept towards sustainability. However, the output voltage that this module generates is comparatively lower considering the cost of the module. It is unclear that how would the temperature gradient between hot end and the cold end be maintained when the automotive is running continuously beyond 30 mins.	
Is the title of the article suitable? (If not please suggest an alternative title)	Experimental study on heat recovery system of exhaust gases in an internal combustion engine using thermoelectric generators	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	<p>The authors mention "Chemical energy" in the first sentence which does not suit the context of this article.</p> <p>The abstract also mentions that the temperature recorded in the exhaust was more than 150°C, whereas the results in the article show a maximum of around 100°C (Referring Figure 5)</p> <p>It also states that "the maximum output voltage was recorded ... with an average hot side temperature is 48°C", this is unclear. The output voltage can be stated as a function of temperature gradient instead.</p>	
Are subsections and structure of the manuscript appropriate?	<p>In section 1, the authors mention that the "For the vehicle manufacturer to meet the regulations, they are required to reduce their vehicle fuel consumption." The authors are suggested to add reference to this sentence.</p> <p>"Moreover, the simple design TEG heat exchanger with air cooling used in this study due to its simplicity and wide range of usage will enable the widespread application of waste heat recovery for power generation from exhaust heat." It is unclear what the authors intend to tell with this sentence, it can be broken down into meaningful sentences such that it is comprehensive.</p> <p>Section 2:</p> <p>The material properties of the TEG are not mentioned, it is suggested to add the details of the material being used.</p> <p>It is suggested to use "Figure No. ___" instead of "figure shown below".</p> <p>Instead of "long lines", "channels" tend to be the right word.</p> <p>The merit of using the DC cooling fans is not reported.</p> <p>Figure 6 and 7 can be plotted with better line work such that the curves are distinguishable. The scale</p>	

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	<p>to be chosen accordingly.</p> <p>Section 3:</p> <p>The discussion appears to be the description of the curves, the physics behind the phenomenon is expected.</p> <p>It is reported that the TEGs did not produce similar values of open circuit voltage and it is attributed to the uneven application of thermal paste. However, doesn't the temperature distribution over the tube contribute more to the temperature gradient? Doesn't it depend on the placement of the TEGs?</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>The correlation between the voltage generated and the temperature gradient has not been discussed. Detailed explanation of the trends with imperial relations will be much appreciated.</p> <p>The authors claim that the maximum voltage generated by connected the 8 TEGs in series, however according to the Figure 7, the maximum voltage generated in the TEGs is much below 0.65V. Even after considering all the TEGs produce 0.7V, the total voltage will be 5.6V rather than the reported 5.8V.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>Recent articles from reputed journals can be referred, the latest article referred in the article is published in 2017.</p>	
<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Grammatical and punctuation errors are consistent all throughout the article, the authors are suggested to revise the document using a proper editing tool and proof read the document.</p> <p>The addition of "to able to" in the sentences, usage of two different tenses in the same sentence, use of "below" alongwith figure numbers should be avoided.</p>	
<p>Optional/General comments</p>		

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)
<p><u>Are there ethical issues in this manuscript?</u></p>	<p><u>(If yes, Kindly please write down the ethical issues here in details)</u></p>	

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