



**SDI Review Form 1.6**

Journal Name:	<a href="#">Advances in Research</a>
Manuscript Number:	Ms_AIR_39431
Title of the Manuscript:	Dual Fueling a Diesel Engine with Syngas Produced From Woodchips
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:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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**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)
<b>Compulsory</b> REVISION comments	<ol style="list-style-type: none"> <li>1. What was the purpose of the research?</li> <li>2. In my opinion the title of the paper is misleading. There is not much information about testing a dual-fuel engine. The authors measured the current parameters on the generator.</li> <li>3. No information about the gas composition.</li> <li>4. No information about the stability of the gasification process.</li> <li>5. How have you dealt with gas pollution? I know from experience that this is a fundamental problem. Engines have high requirements for gas purity.</li> <li>6. Units should be in the SI system.</li> <li>7. In line 118 is: "The engine needed a 119 minimal amount of diesel to ignite ". What does it mean: minimal. What was the optimal ratio of diesel to gas?</li> <li>8. What was the smallest ratio of diesel to gas?</li> <li>9. In Table 1. , what does mean "Diesel usage"?</li> <li>10. There no is information of measurement errors.</li> <li>11. Section "Results and discussion" is too poor, in my opinion.</li> </ol>	<ol style="list-style-type: none"> <li>1. As stated in the abstract on line 7 the aim of the research was to ascertain the diesel fuel savings in dual fueling a small diesel powered genset with a small Imbert style downdraft gasifier fueled with hardwood wood chips.</li> <li>2. Title changed. The paper reported fuel consumption during 8 trials of the genset in diesel only mode and dual fuel mode. These quantities were not known before the trials.</li> <li>3. The work reported on in this paper is part of an ongoing project, producer gas composition will be measured in the future.</li> <li>4. I am not sure what stability of the gasification process refers to. If in the gasifier the fuel supply is maintained , ashes removed from the charring, oxidation and reduction zones and engine rpm kept constant, the gasification process is very stable.</li> <li>5. I believe gas pollution mainly refers to control of tar concentration in the producer gas. Imbert gasifiers operated properly inherently are low producers of tar because the producer gas is drawn through the hot oxidation and reduction zones where the tars are broken down before leaving the gasifier. Further control of tar in the producer gas is provided by the hay filter which traps tar on the hay media before the gas reaches the engine. During gasifier start up when temperatures in the oxidation and reduction zones are low tar concentration in the producer gas is high. Air flow through the gasifier is then provided by the vacuum cleaner until the gasifier is up to temperature. After the gasifier is up to temperature the producer gas is then rerouted from the vacuum cleaner to the engine.</li> <li>6. Units changed to SI</li> <li>7. This information was added in lines 207 –210.</li> <li>8. This information was added in lines 207 –210.</li> <li>9. Diesel Usage refers to the amount of diesel used during the run.</li> <li>10. Measurement error for measuring the diesel quantity added line 146.</li> <li>11. Information added in lines 207 –210.</li> </ol>
<b>Minor</b> REVISION comments	<ol style="list-style-type: none"> <li>1. Data presented in Fig. 4 are visible in Fig. 5 as well. That Fig. 4 is not necessary.</li> </ol>	<ol style="list-style-type: none"> <li>1. The scale of Fig.5 does not permit adequate depiction and labelling of genset components.</li> </ol>
<b>Optional/General</b> comments	<ol style="list-style-type: none"> <li>1. Before taking a photo, it would be good to make order around the research stand. (This is a suggestion for the future)</li> </ol>	Thank you noted.