

Reviewer 5:

	Yes	Can be improved	Must be improved	Not applicable
Does the introduction provide sufficient background and include all relevant references?	()	(x)	()	()
Is the research design appropriate?	(x)	()	()	()
Are the methods adequately described?	(x)	()	()	()
Are the results clearly presented?	(x)	()	()	()
Are the conclusions supported by the results?	(x)	()	()	()

Comments from the authors:

Dear Reviewer 5, first, we would like to thank you kindly for your comments and for taking the time to review our manuscript. We appreciate your interest in our work. The following are the corrections and comments made by the authors:

Reviewer 5 comments	Authors' corrections and comments
-We live now in a climate emergency so its most strange that the authors have not start the paper by mentioning exactly that. It seems that they are not aware about the words of a Professor of Physics at the University of Oxford authored a paper where one can read the following: “Let’s get this on the table right away, without mincing words. With regard to the climate crisis, yes, it’s time to panic” Pierrehumbert, R., 2019. There is no Plan B for dealing with the climate crisis. Bulletin of the Atomic Scientists, pp.1-7. So please start the introduction by draw a connection between environmental degradation and resource efficiency.	The authors would like to thank Reviewer 5 for this comment. We do agree with you given the current situation and the pressure put on the industry to adopt such measures; therefore, we have put more emphasis on reiterating that in the new version of the manuscript. The addition was added to the manuscript, at the beginning of the abstract and the introduction. All changes as per all Reviewers comments are highlighted in yellow in the revised version of the manuscript. Abstract: <i>Pressure arises to use sustainable materials and adopt practices reducing the carbon footprint of the construction industry.</i> Introduction: <i>Tackling climate change is among the top priorities worldwide, with emphasis on reducing CO₂ emissions. Canada has set its own target of reaching the so-called net zero by 2050 [1]. There is indeed an urgency to adopt alternative solutions to reduce the carbon footprint in the construction industry. The production of Portland cement alone amounts to approximately 5% of global CO₂ emissions [2].</i>
- “The use of recycled concrete aggregates (RCA) has been progressively considered as a sustainable alternative” Comment: The environmental efficiency of RAC depend on the transport distance. See on this issue	We thank you for this comment and observation, indeed it is assumed that the RCA is in proximity to the work site; yet, it may not always be the case and this should definitely be emphasized. This was therefore addressed in the Introduction as follows:

Marinković, S.B., Ignjatović, I. and Radonjanin, V., 2013. Life-cycle assessment (LCA) of concrete with recycled aggregates (RAs). In <i>Handbook of Recycled Concrete and Demolition Waste</i> (pp. 569-604). Elsevier	<i>Moreover, sources of the non-renewable natural aggregates are becoming depleted nearby major continuously expanding urban centers resulting in longer transportation distances and thus, an increased carbon footprint [3-5]. Therefore, the use of recycled concrete aggregates (RCA) has been progressively considered as a sustainable alternative to the non-renewable natural aggregate. RCA can help decreasing the carbon footprint of new concrete (i.e., lessening the amount of new Portland cement required when accounting for the residual cement paste into the mixture), limiting the use of natural resources and reducing landfill's usage, provided that the RCA is in closer proximity to the concrete plant/construction site [6-9].</i>
- “the coarse RCA (CRCA) fraction is used in new concrete construction, often limited to non-structural applications due to concerns over the material’s variability, quality, and presence of impurities (i.e., other waste debris)” Comment: Provide references	Thank you for this observation, references have been added as follows: <i>Generally, the coarse RCA fraction is used in new concrete construction, often limited to non-structural applications due to concerns over the material’s variability, quality, and presence of impurities (i.e., other waste debris), whereas the fine RCA (FRCA) fraction is rejected, being considered as a by-product or waste [4-5].</i>
-The paper has too many accronyms. Using acronymous for expressions like “general use”, oven dry, natural sand etc etc makes no sense	Thank you for this comment, this issue has been addressed throughout the manuscript.