Reviewer 4

Comments and Suggestions for Authors

The authors synthesized the monometallic catalysts namely Pd, Cu and Zn on graphitic-carbon nitride (g-C_3N_4) and studied the potential of the catalysts in formic acid (FA) and mixed formic acid (FA)-acetic acid (AA) decomposition reaction. Several parameters have been studied in this work such as the type of active metals, temperature, and metal loadings. The optimized conditions for different metallic catalysts were found. It was found that the catalytic activity of g-C_3N_4 loaded with Cu and Zn is lower than their counterpart loaded with Pd, due to the formation of unactive CuO and ZnO. This work is interesting and is suitable for publication in Sustainability after addressing the following points:

1. The abstract is too long, which should be more concise to show the key scientific findings. In addition, some grammar issues and typos are found in the abstract. For example, “will increased”, “was significantly reduce”, etc.

Answer: The abstract has been rewritten. Grammar and typos found in manuscript has been checked and improved. (in yellow font).

2. The morphologies in the SEM images (Figure 4) should be discuss to show readers more comprehensive information.

Answer: The morphologies in SEM imges (Figure 4) has been discussed in manuscript (line 229-235).

3. The EDX figures shown in Figure 5 are very unclear. The authors should provide new figures with higher resolution.

Answer: The EDX figures shown in Figure 5 (a,b and c) has been improved to more clear figure with higher resolution as suggested.

4. Some relevant works can be cited and discussed in the manuscript to attract more readerships (e.g. *J. Mater. Sci. Technol.* **2022**, *104*, 155 -162; *J. Colloid Interface Sci.* **2022**, *610*, 495-503; *J. Mater. Chem. C* **2021**, *9*, 14876 -14884).

Answer: All suggested journals have been cited in the manuscript text as literature in line from 75 – 111.