**User Guide for Python Code for LCA graphs generation**

# Creating Your Excel File

Before running the code, you must create an Excel file following the format of the template file: Template\_to\_fill\_data\_needed\_for\_Python.

Structuring Principles:

* You are free to create multiple scenarios.
* For each scenario, you can define as many contributions as you want.
* A contribution can appear in multiple scenarios. The code will automatically group identical contributions under a single color and a single entry in the legend.
* You can add as many impact categories as needed.
* Maintaining the File Format:
* Keep the general structure of the template file.
* Fill in the cells marked in red.
* To reduce the number of impact categories, delete the corresponding rows.
* To adjust the number of scenarios or contributions, add or delete columns.
* The cell above each contribution must remain because it indicates which scenario the contribution belongs to.
* The format of scenario names must be: scenario number (scenario name).
* Once your Excel file is created and saved, you can proceed with running the Python code.

# Running the Python Code

* Open Spyder (or another Python IDE).
* Create a new Python file.
* Copy and paste the Python code found in the ‘Python\_code\_english\_Graph’ file.
* Identify the code structure:
* First part: Definition of functions for generating tables and graphs.
* Second part: Main code calling these functions to produce results.
* Modify the file path in the following line:
* file\_path = "C:\\Users\\idriouech001\\Desktop\\BIOCOP Project\\Code contribution analysis\\données.xlsx"
* Ensure you use double backslashes (\\) as directory separators to avoid errors.
* Specify the name of the Excel sheet:
* sheet\_name = "Données"
* Run the script.
* Wait for the results to display.
* Check the Graphs tab to view the following visualizations:
* Combined comparison of contributions and scenarios.
* Relative contribution for each scenario (vertical bars).
* Relative contribution for each scenario (horizontal bars).
* Comparison of scenarios with stacked histograms.
* Comparison of scenarios with bar charts.
* Contribution analysis with scenario comparison (one graph per impact category).

III. Customization and Adjustments

* The code contains comments explaining the logic behind calculations and visualizations.
* You can adjust colors, graph layout, and other parameters by modifying the relevant sections of the code.

IV. Need Help?

* Check ChatGPT first for a quick solution.
* If needed, contact me by email: [iheb.driouech@u-bordeaux.fr](mailto:iheb.driouech@u-bordeaux.fr).

**Good Luck!**