



Reproducible Research Repository

Border Carbon Adjustments Revisited

Second Submission: RR_WLD_2026_710

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This review verifies the reproducibility of the exhibits included in the paper “*Border Carbon Adjustments Revisited*”.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
3. Reproduction Environment

Main findings

- **Every exhibit of the paper has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Executing the batch file: ‘run.bat’
- The code takes approximately 20 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 types of data: limited-access (available for purchase).
 - Aggregated data is included in the public reproducibility package.
 - Reviewers used aggregated data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package.
 - *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the forthcoming/accessible/limited-access/restricted data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**
 - **Data:** Some data is limited-access and has not been included in the reproducibility package. For more details, please refer to the README file.
 - **Code:** All code files (from cleaning to analysis) are included in the reproducibility package.
 - **Outputs:** All outputs are generated by code included in the reproducibility package.
 - **Dependencies environment:** The reviewers reproduced an existing environment for dependencies using dependency files or an environment metadata file provided by the authors.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Table 1** Does not apply. Table does not contain analytical output.
- **Table 2** Does not apply. Table does not contain analytical output.
- **Table 3** Does not apply. Table does not contain analytical output.
- **Table 4** Does not apply. Table does not contain analytical output.
- **Table 5** **Reproduced**. Exhibit prepared manually in Excel. Table 5 is based on the 'data' sheet. For each scenario, leakage under REF and BCA+ is extracted, and the percentage reduction is calculated as $(\text{REF} - \text{BCA+}) / \text{REF} \times 100$. HEV reports the relative improvement in equivalent variation between BCA+ and REF.
- **Figure 1** Does not apply. Figure does not contain analytical output.
- **Figure 2** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 3** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 4** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 5** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 7** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 8** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 9** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 10** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 11** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 12** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 13** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 14** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 15** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 16** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 17** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 18** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 19** **Reproduced**. Exhibit prepared manually in Excel.
- **Figure 20** **Reproduced**. Exhibit prepared manually in Excel.

- **Figure 21** *Reproduced*. Exhibit prepared manually in Excel.
- **Figure 22** *Reproduced*. Exhibit prepared manually in Excel.
- **Figure 23** *Reproduced*. Exhibit prepared manually in Excel.

Results in the Annex

- **Table A.1** Does not apply. Table does not contain analytical output.
- **Table A.2** Does not apply. Table does not contain analytical output.
- **Table B.1** Does not apply. Table does not contain analytical output.
- **Figure C.1** Does not apply. Figure does not contain analytical output.
- **Table C.2** Does not apply. Table does not contain analytical output.
- **Table C.3** Does not apply. Table does not contain analytical output.
- **Table C.4** Does not apply. Table does not contain analytical output.
- **Table C.5** Does not apply. Table does not contain analytical output.
- **Table C.6** Does not apply. Table does not contain analytical output.
- **Figure C.2** Does not apply. Figure does not contain analytical output.
- **Figure C.3** Does not apply. Figure does not contain analytical output.
- **Figure C.4** Does not apply. Figure does not contain analytical output.
- **Figure C.5** Does not apply. Figure does not contain analytical output.
- **Figure C.6** Does not apply. Figure does not contain analytical output.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (2 processors)
- Memory available: 32.0 GB
- Software version: GAMS Release: 52.5.0