



## *Deep and Shallow Decarbonization in Supply Chains*

*Second Submission: RR\_WLD\_2025\_522*

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This review verifies the reproducibility of the exhibits included in the paper “*Deep and Shallow Decarbonization in Supply Chains*”.

### **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. Updating the working directory.
- The code takes approximately 75 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 3 types of data: open, accessible (public but not included in the reproducibility package), and limited-access data (available through institutional subscription).
  - Open data is included in the public reproducibility package.
  - Reviewers used forthcoming/accessible/restricted 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 temporarily embargoed by the authors (expected to be made public in the future).
  - **Code:** All code files are temporarily embargoed by the authors (expected to be made public in this repository in the future).

- **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**

- **Figure 1** Reproduced.
- **Figure 2** Reproduced.
- **Figure 3a** Reproduced.
- **Figure 3b** Reproduced.
- **Figure 3c** Reproduced.
- **Figure 3d** Reproduced.
- **Figure 3e** Reproduced.
- **Figure 3f** Reproduced.
- **Figure 4a** Reproduced.
- **Figure 4b** Reproduced.
- **Figure 4c** Reproduced.
- **Figure 4d** Reproduced.
- **Figure 4e** Reproduced.
- **Figure 4f** Reproduced.
- **Table 1** Reproduced.
- **Table 2** Reproduced.
- **Table 3** Reproduced.
- **Table 4** Reproduced.
- **Table 5** Reproduced.

#### **Results in the Annex**

- **Figure A1** Reproduced.
- **Figure A2** Reproduced.
- **Figure A3** Reproduced.
- **Table B1** Reproduced.

*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 (4 processors)
- Memory available: 32.0 GB
- Software version: Stata 18.0 MP