



Reproducible Research Repository

Informing Net Zero Industrial Pathways.

Third Submission: FR_IND_2025_377

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This review verifies the reproducibility of the exhibits included in the paper “*Informing Net Zero Industrial Pathways.*”.

Contents in this review:

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Main findings

- **Every exhibit has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Running `renv::init()` to initialize the R programming environment
 2. Updating the file paths in R scripts.
 3. Updating the file paths in the dofile.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 5 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors by email on October 22nd.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on accessible data. It is public but not included in the reproducibility package.
 - Reviewers used 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 accessible data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**

- **Data:** All data sources are accessible but not all are included in the reproducibility package.
- **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 created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1** This exhibit was sourced from IEA Energy Statistics Data Browser.
- **Figure 2** Does not show analysis results
- **Figure 3** Reproduced
- **Figure 4** Reproduced
- **Figure 5** Reproduced
- **Figure 6a** Reproduced
- **Figure 6b** Reproduced
- **Figure 7a** Reproduced
- **Figure 7b** Reproduced
- **Figure 8a** Reproduced
- **Figure 8b** Reproduced
- **Figure 9** Reproduced

- **Figure 10** Reproduced
- **Figure 11a** Reproduced
- **Figure 11b** Reproduced
- **Figure 12a** Reproduced
- **Figure 12b** Reproduced
- **Figure 13a** Reproduced
- **Figure 13b** Reproduced
- **Figure 14** Reproduced
- **Figure 15** Reproduced
- **Figure 16a** Reproduced
- **Figure 16b** Reproduced
- **Figure 16c** Reproduced
- **Figure 16d** Reproduced
- **Figure 17a** Reproduced
- **Figure 17b** Reproduced
- **Figure 18a** Reproduced
- **Figure 19** Reproduced
- **Figure 20** Reproduced
- **Figure 21** Reproduced
- **Figure 22** Reproduced
- **Figure 23** Reproduced
- **Figure 24a** Reproduced
- **Figure 24b** Reproduced
- **Figure 25a** Reproduced.
- **Figure 25b** Reproduced.
- **Figure 26a** Reproduced
- **Figure 26b** Reproduced
- **Figure 27a** Reproduced.

- **Figure 27b** Reproduced.
- **Figure 28** Reproduced
- **Figure 29** Reproduced
- **Figure 30** This exhibit was sourced from Atlas of Economic Complexity
- **Figure 31a** Reproduced.
- **Figure 31b** Reproduced.
- **Figure 32** This exhibit was sourced from Hasanbeigi 2010. “Energy Efficiency Improvement Opportunities for the Textile Industry.” Lawrence Berkeley National Laboratory, Berkeley, CA, USA
- **Figure 33** Reproduced.
- **Figure 34** Does not show analysis results - based on assumptions
- **Figure 35** Reproduced.

Results in the Annex

- **Table A1.1** Reproduced.
- **Table A2.1** Reproduced.
- **Table A3.1** Does not show analysis results - based on assumptions
- **Table A4.1** Reproduced.

Reproduction Environment

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

- OS: Windows 11 Enterprise
- Processor: Intel(R) Core(TM) i5-1145G7 CPU @ 2.60GHz
- Memory available: 15.7 GB
- Software version: R 4.5.1, Stata 18 MP, Excel