

Reproducibility package for the study

"Decarbonization in MENA Countries: An Empirical Analysis of Policy Impacts"

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#### Statement about Rights:

I certify that the authors of the manuscript have legitimate access to and permission to use the data used in this manuscript. I certify that the authors of the manuscript have documented permission to redistribute the data contained within this replication package.

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#### Data Availability Statement:

The results in Tables 1-4, Table A.2.2, and Figure A.2.1 are based on the dataset "HM\_Assembled data plus oil prices.xlsx", which was constructed from the following three sources:

The variable "oil\_price" comes from the U.S. Energy Information Administration and is publicly available here: <https://fred.stlouisfed.org/series/ACOILBRENTU> To access the data, click on the "Download" button and save it as "ACOILBRENTU.xlsx" (Excel data).

The variables "Product" and "subsidies" come from the Fossil Fuel Subsidies Database of the International Energy Agency (IEA), which is publicly available here: <https://www.iea.org/data-and-statistics/data-product/fossil-fuel-subsidies-database> To access the data, first create an account and login, then download the file "Subsidies 2010-2023.xlsx". Note: Since the dataset was first accessed (in 2021), it has been updated by the IEA, including retrospectively for past values (subsidies are now expressed in Real 2023 million USD), so that some of the values in the currently available version differ from those used in the analysis. The original versions are not publicly available anymore.

All other variables (GHG emissions) come from the Our World in Data CO2 and Greenhouse Gas Emissions dataset, which is publicly available here: <https://github.com/owid/co2-data?tab=readme-ov-file> To access the data, scroll down to "Download our complete CO2 and Greenhouse Gas Emissions dataset: CSV | XLSX | JSON" and download the file "owid-co2-data.xlsx". Note: Since the dataset was first accessed (in 2021), it has been updated (including retrospectively for past values) so that some of the values in the currently available version differ from those used in the analysis. The original versions are not publicly available anymore.

The do-file "DecarbonizeMENA\_repl.do" contains the code to merge the 3 datasets ("ACOILBRENTU.xlsx", "Subsidies 2010-2023.xlsx", "owid-co2-data.xlsx") into one file called "HM\_Assembled data plus oil prices\_NEWVALUES.xlsx". This file resembles the file "HM\_Assembled data plus oil prices.xlsx" which is used to generate the regression tables in the paper, except that it is based on the more recent versions of the underlying datasets. Therefore, running the regressions in "DecarbonizeMENA\_repl.do" using "HM\_Assembled data plus oil prices\_NEWVALUES.xlsx" will give similar but not identical results compared to those in the paper. To reproduce the results as in the paper, the file "HM\_Assembled data plus oil prices.xlsx" should be used.

The results in Figures 7-11 (a-d) are based on the datasets "Figure 7-11 (a+b).xlsx" and "Figure 7-11 (c+d).xlsx", respectively, which contain scenario-based forecasts for individual countries that were generated using the Climate Policy Assessment Tool (CPAT), an analytical tool for forecasting effects of climate mitigation policies (accessed in 2021). CPAT was developed by the World Bank in collaboration with the IMF and with

contributions from other institutions (IDB, EU-JRC, IIASA, WHO, RFF, EIEE, and others). CPAT is not publicly accessible. Instead, it is made available to governments and researchers through a formal request channels described here: <https://www.worldbank.org/en/topic/climatechange/brief/climate-policy-assessment-tool> Once access to CPAT has been obtained, the data used in the analysis can be generated by specifying the countries and scenarios as described in the files "Figure 7-11 (a+b).xlsx" and "Figure 7-11 (c+d).xlsx". For instance, to replicate the values for India on the "Data" sheet in "Figure 7-11 (a+b).xlsx", one will have to specify in CPAT country as "India" and scenario as "5 to 5" (Carbon tax = 5 & no fossil fuel subsidies) and "5 to 25" (Carbon tax raise to 25).

Note: Since CPAT was first accessed (in 2021), it has been updated (including retrospectively for past values) so that the values in the currently available version may differ from those used in the analysis.

The remaining figures are either illustrations of the authors (without underlying data) or taken from previous studies as described below.

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Follow the steps below to reproduce the tables and figures in the report.

Tables 1-4, Table A.2.2, and Figure A.2.1:

1. Open the do-file "DecarbonizeMENA\_repl.do" in STATA.
2. Specify the path to the folder (reproducibility package).
3. Execute the corresponding section of the do-file for each table/figure.
4. The results are generated and stored in the same folder. Note: The underlying data can be found in the Excel file "HM\_Assembled data plus oil prices.xlsx" in the same folder.

Figure 1: Taken from the website of the International Energy Agency (IEA): <https://www.iea.org/topics/fossil-fuel-subsidies>

Figure 2: Taken from the IMF Fossil Fuel Subsidies Data - 2023 Update (Figure ES1):

<https://www.imf.org/en/Publications/WP/Issues/2023/08/22/IMF-Fossil-Fuel-Subsidies-Data-2023-Update-537281>

Figures 3, 3a, and 4: Illustrations by authors (no underlying data).

Figures 5 and 6: Taken from 2022 Global Gas Flaring Tracker Report (see pages 7 and 5):

<https://thedocs.worldbank.org/en/doc/1692f2ba2bd6408db82db9eb3894a789-0400072022/original/2022-Global-Gas-Flaring-Tracker-Report.pdf>

Figures 7-11 (a+b):

1. Open the Excel file "Figure 7-11 (a+b).xlsx".
2. Navigate to the corresponding sheet. Note: The underlying data can be found in the "Data" sheet.

Figures 7-11 (c+d):

1. Open the Excel file "Figure 7-11 (c+d).xlsx".
2. Navigate to the corresponding sheet. Note: The underlying data can be found in the respective "Data\_..." sheets.