



GTAP Consortium Agency Report Template

GTAP Advisory Board Representatives, your annual agency report of GTAP usage at your organization should contain, but not be limited to the types of items listed below. Please include details for activities undertaken since the previous year's advisory board meeting in June. When your report is complete, please email it to Ginger Batta (gbatta@purdue.edu).

1. GTAP Model and Data Base Usage

This section should include a brief summary of how and for what your organization has used the GTAP Model(s) and/or Data Base(s), as well as how this usage has furthered your organization's mission and purpose.

The GTAP 10.1 database has been used to estimate the NTMs in Services needed to calibrate barriers in services for the year 2014 in the different version of the Mirage model developed at Cepii.

The GTAP-POWER 10.1 database has been used to calibrate a new version of MIRAGE model, MIRAGE-POWER. The GTAP 10.1 satellite non-CO2 GHG emissions database has been used to develop the representation of greenhouse gas in MIRAGE-POWER. The model MIRAGE-POWER disaggregates the power activities into power transmission & distribution, and power generation by renewable energy, nuclear, coal, oil, and gas. The model MIRAGE-POWER focuses on analyzing the interaction between trade policies and climate change policies concerning carbon markets and energy transition.

The GTAP 10.1 database has been used to calibrate the fossil fuel rent shares in the model of the work in progress: "Carbon bias of tariffs: are fossil fuels the culprits?". In this New Quantitative Trade model, fossil rents and labor are used as CES components of value added as in the Bahquee-Farhi structure. This work will be presented in this year's GTAP conference.

2. Publications

This section should include a list of your organization's publications (of any type) that utilized the GTAP Model(s) and/or Data Base(s).

Fontagné, L., Mitaritonna, C. and Zheng Yu, "Décollage du commerce intra-africain : l'impératif de croissance économique", La lettre du CEPII N° 425 mars 2022.

Gouel, C., "Measuring Climate Change Impacts on Agriculture: An Equilibrium Perspective on Supply-Side Approaches", NBER Working Paper 30279, July 2022.

Bellora C., Fontagné L., “EU in Search of a Carbon Border Adjustment Mechanism”, forthcoming Energy Economics

3. Presentations

This section should include a list of your organization’s presentations (of any type) that utilized the GTAP Model(s) and/or Data Base(s).

Guimbard, H. and Jansson, T. “Economic and environmental consequences of CETA on European regions”, JRC European Commission, Sevilla, September 2022

Bellora C., Fontagné L. A Dynamic Path to a Low Carbon Economy, Vienna, June 2022

Karingi,S., Fontagné, L., Mevel,S., Mitaritonna,C. and Zheng Y, “ AfCFTA: climate and carbon impacts”, African Business Forum, Addis Abeba, February 2023.

4. Special Reports

This section should include a list of any special reports prepared at your organization that utilized the GTAP Model(s) and/or Data Base(s).

5. Projects

This section should include a list and summary of all projects undertaken at your organization that utilized the GTAP Model(s) and/or Data Base(s).

CEPII is a member of a European consortium (named BATModel) gathering fifteen research centers, specialized in agricultural economics. The consortium leader is INRAE (France). The consortium includes European research centers specialized in economic modelling such as the WTI, the university of Bonn, SLU... This research contract (Horizon 2020) started in September 2020 and will end in 2024. In 2022, CEPII worked with University of Uppsala (SLU, Sweden) to study the consequences of a test case trade agreement (between the European Union and Canada, i.e. the CETA) by focusing on the agricultural sector. This project proposes an interaction between the general equilibrium model MIRAGE (CEPII), using the GTAP database, and the partial equilibrium model, dedicated to European agriculture, CAPRI (SLU). The link between the two models is top-down and it will be replicated to CGEBox and MAGNET. This work has been presented in the consortium meeting in Sevilla (september 2022) and a deliverable has been sent to the European Commission in April 2023.

CEPII collaborates with UNECA (United Nations Economic Commission for Africa) to study the expected economic and environmental impacts of the implementation of the African Continental Free Trade Area (AfCFTA), whose agreement has been ratified by 55 African countries. CEPII has already carried out a first series of simulations showing the macroeconomic effects of the agreement. If the results of the simulations already carried out are in line with the expected economic impacts, many issues remain to be studied in depth. Beyond supporting negotiations and policy-making, this project will provide a detailed analysis on the impacts of the agreement on environment and regional value chains.

The results of a first set of simulations concerning the environmental impact of AfCFTA and possible carbon policies within the continent were presented at the African Business Forum in February 2023 while a more accurate study on the subject will be presented at the GTAP conference in Bordeaux in June 2023. For this first part CEPII has developed a version of the MIRAGE model, MIRAGE-POWER, which allows us to take into account the interactions of environmental policies and trade policies. The model has been calibrated using the GTAP-POWER 10.1 database and the GTAP 10.1 satellite databases on non-CO2 GHG emissions.

The study on the impact of AfCFTA on regional value chains will use the MIRAGE-VA model. It is expected to be concluded by the end of the year 2023.

6. Other Activities

This section should include any additional GTAP-related activities at your organization that do not fit into the above categories.