

U.S. Department of Energy

2013 GTAP Advisory Board Report

**Office of Policy and International Affairs (PI), Office of Climate Change Policy and Technology**

*Development and application of the GDyn-E Model*

PI staff completed its work with the Center for Global Trade Analysis to advance the development of GDyn-E, a multi-region, multi-sector recursive dynamic CGE model built as a combined extension of the GDyn model and the GTAP-E model. (DOE's 2012 Advisory Board report provides details on recent applications of GDyn-E for the evaluation of U.S. and international climate and energy policies.) The GDyn-E model will be released as an open access model to the research community, as are other models in the GTAP suite. A technical paper on the GDyn-E model has undergone review and is in the process of being finalized.

*Development and application of the G-Cubed Model*

PI staff also supported GTAP-based modeling analysis related to climate and energy policy through the Climate and Energy Economics Project at the Brookings Institution. A fourth research brief was produced using the G-Cubed model of the world economy, which is calibrated to GTAP data (see McKibbin et al. 2012, "[The Potential Role of a Carbon Tax in U.S. Fiscal Reform](#)"). A final research brief examined a U.S. Clean Energy Standard and used a newly-developed version of G-Cubed with a more detailed specification of U.S. electric power generation technologies.

*Other research using GTAP*

PI staff engaged in a project with Resources for the Future (RFF) and EPA's National Center for Environmental Economics to examine the competitiveness impacts of carbon dioxide pricing policies on U.S. manufacturing industries. Two models were used in the project. An input-output model was used to examine the short-run impacts. A GTAP-based global CGE model (solved in GAMS) was used to examine the longer run. A recent output from this project is: Adkins et al. 2012, "[Carbon Pricing with Output-Based Subsidies: Impacts on U.S. Industries over Multiple Time Frames.](#)"