# GENERAL ALGEBRAIC MODELING SYSTEM

High-Level Modeling

The General Algebraic Modeling System (GAMS) is a high-level modeling system for mathematical programming problems. GAMS is tailored for complex, large-scale modeling applications, and allows you to build large maintainable models that can be adapted quickly to new situations. Models are fully portable from one computer platform to another.

State-of-the-Art Solvers

GAMS incorporates all major commercial and academic state-of-the-art solution technologies for a broad range of problem types.
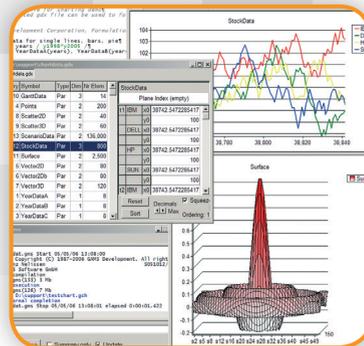
GAMS Integrated Developer Environment for editing, debugging, solving models, and viewing data.

Long-term Energy Scenarios in the US with TIMES FACETS

Making decisions about energy policy requires assessing impacts on many intersecting goals – including energy security, climate change mitigation, air quality, economic development, and energy access – in the context of significant uncertainties about future fuel markets, technology development, and policy choices. The TIMES model generator, written in GAMS and stewarded by the International Energy Agency's Energy Technology System Analysis Program (ETSAP), a consortium of 20 research institutions worldwide, provides building blocks to depict an entire energy system from "wells-to-wheels" as a network of technology pathways, fully capturing supply-demand interplay.

Explore the solution space

Reach policy makers

In the US, the TIMES FACETS model represents individual power plants, along with their fuel supplies, emissions, and retrofit options. FACETS has been used to examine mercury emissions control, the economic impacts of shale gas, and most recently the EPA's Clean Power Plan. It provides state-level results within regional and national contexts. Use of a cloud-based GAMS platform allows hundreds of model runs to be submitted simultaneously, enabling full exploration of the solution space. The VedaViz data visualization system and policymaker portals help extract insights from the large volume of results data and engage a wide range of stakeholders in the analysis process.
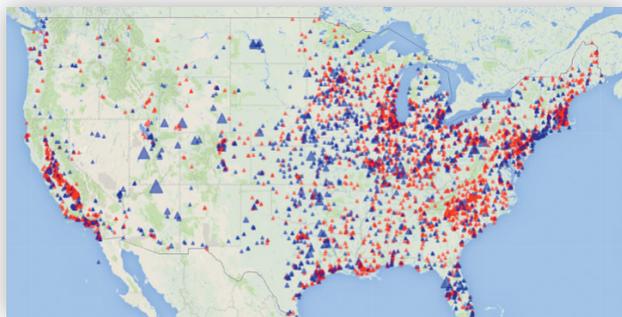
Model at many scales

For more information see www.iea-etsap.org and www.facets-model.com.