



ARGONNE'S GREET MODEL SETS STANDARDS FOR LIFE-CYCLE ANALYSIS OF VEHICLES AND ENERGY SYSTEMS

GREET examines life-cycle impacts of vehicle technologies and energy systems for producers, researchers and regulators.

BACKGROUND

Environmental regulatory agencies frequently update national and regional standards related to energy use and emissions output of various vehicle and fuel combinations. In response, industries must take steps to ensure they meet these standards.

A tool known as life-cycle analysis is an effective way for industries and companies to ensure they are minimizing energy and environmental impacts of their transportation technologies. To get a complete picture of the impacts of a transportation technology, it is critical to consider the full life cycle – from well-to-wheels for fuels and from raw material mining to vehicle disposal for automobiles.

THE INNOVATION

With the support of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy, Argonne National Laboratory researchers developed the GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies) model, a one-of-a-kind analytical tool designed to examine the energy and environmental effects of a wide variety of transportation fuels and vehicle technologies in major transportation sectors (e.g., road, air, marine and rail).

Originally released in 1995, GREET annually updates to provide users with assessments of the sustainability of research and development investments.

THE IMPACT

- By using life-cycle analysis, industries can better understand the breadth and magnitude of impacts from vehicle systems.
- GREET has attracted over 40,000 users worldwide, including industry, academic, and government organizations.
- Users include Shell, General Motors, the Environmental Protection Agency, the International Civil Aviation Organization, the Federal Aviation Administration, the California Air Resources Board, NASA, Cummins, and the Massachusetts Institute of Technology.

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