New tool predicts economic impacts of natural gas stations

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Credit: AI-generated image (disclaimer)

(Phys.org) —Researchers at the U.S. Department of Energy's Argonne National Laboratory announced a new tool today for analyzing the economic impacts of building new compressed natural gas fueling stations. Called JOBS NG, the tool is freely available to the public.

Mostly made up of methane, compressed natural gas is an alternative fuel for cars and trucks that can offer greenhouse gas benefits over gasoline.

Thanks to new methods, natural gas production has boomed in the U.S., raising interest in its use as a vehicle fuel. But there are currently far fewer natural gas stations than gasoline stations in the country, concentrated in a few areas like California, Oklahoma, Utah and New York. (See them all on the DOE's map of every public natural gas station in the U.S.)

JOBS NG is designed to help states and local governments evaluate possible economic benefits related to natural gas stations when they are setting new policies. It can also help developers quantify proposals.

"Our model estimates the jobs created and economic output at every stage in the process, beginning with station design and construction and continuing through the operation and maintenance of the station and the sale of natural gas fuel," said Marianne Mintz, an Argonne systems analyst who built the tool.

The analysis even extends to the equipment for the station—accounting for the raw materials that go into components as they are mined, refined, distributed and assembled. (Because natural gas generally arrives via pipeline in gaseous form, it has to be compressed at the station to less than one percent of its original volume using special equipment.)

"The model also accounts for ripple effects as new jobholders purchase goods and services elsewhere in the economy," Mintz said.

It's also customizable by state or census region.

JOBS NG is the third in a series of tools designed to estimate economic

impacts of energy investments, all based on standard equations used by the Department of Labor to estimate the effects of investment dollars in a region. Earlier tools calculated similar impacts for developing hydrogen fueling stations and for deploying fuel cells in forklifts and for backup power. All three tools are available online, along with information and guides for using the models.

Mintz announced JOBS NG today at NGVOK, a natural gas conference and exposition in Tulsa, Oklahoma. The tool was developed by Argonne with the assistance of RCF Economic and Financial Consulting, Inc. for the Department of Energy's Clean Cities Program.

Development of this tool was supported by the U.S. Department of Energy's Clean Cities program, an initiative of the DOE's Office of Energy Efficiency and Renewable Energy. Clean Cities works with a network of nearly 100 coalitions to advance the nation's economic, environmental and energy security by supporting local actions that reduce transportation-sector petroleum consumption.

Provided by Argonne National Laboratory