

GRID MODERNIZATION CASE STUDY: County B.R.A.I.N. Project

In 2024, a county in New Mexico began development of a Balanced Resource Acquisition and Information Network, or BRAIN, project. The BRAIN is expected to take 18 months to build and cost an estimated \$535,000, with 65 percent of the cost coming from the New Mexico Grid Modernization Grant Program. What led to this project?

County Goals

This County is motivated to increase energy efficiency from its building assets in order to meet its goal of reducing emissions from the building sector by 60 percent across County facilities by 2030. In addition, the County wants to reduce facility operation and maintenance costs, integrate more distributed energy resources and increase its decision-making power through real-time situational awareness of energy usage. The County hopes to achieve the ancillary benefits of helping to develop a local skilled energy workforce, while increasing the attractiveness of the County to prospective business investment.

Challenges to Achieving Goals

The County identified two main challenges to achieving its goals. The major issue is a lack of real-time visibility into its assets, especially in regard to the use, or potential waste, of energy and water across its facilities. Complicating the matter is that County assets have disparate software systems, data streams, telemetry, metering and controls, some of which are managed by third-party vendors.

Connection to Grid Modernization

Smart grid-connected facilities and grid-integrated distributed energy resources, including storage, are what’s known as demand-side resources. That is, the local utility (and eventually the broader energy market) may signal a monetary value for a customer for being able to regulate these assets (e.g. turn them off) on demand. Demand response capability is yet another benefit to the County for achieving real-time command and control of assets, and it serves the broader objectives of the state Grid Modernization Program by supporting the transition to clean energy resources.

Technical Solution

The County settled on a technical solution, the BRAIN, with the capability to integrate all of its assets in real-time, allowing it the flexibility and potential to participate in utility demand response programs as well as achieve its other immediate goals. Since the County’s assets are all behind-the-meter, the County can proceed with the project with limited utility coordination. The County is working with the utility to automate the integration of utility billing into the BRAIN. Also, when providing a letter of support for the project, the local utility encouraged the County to consider edge-of-grid cyber security in its design, which it has.

Result

The project was estimated to have saved \$355,000.00 in the first year.

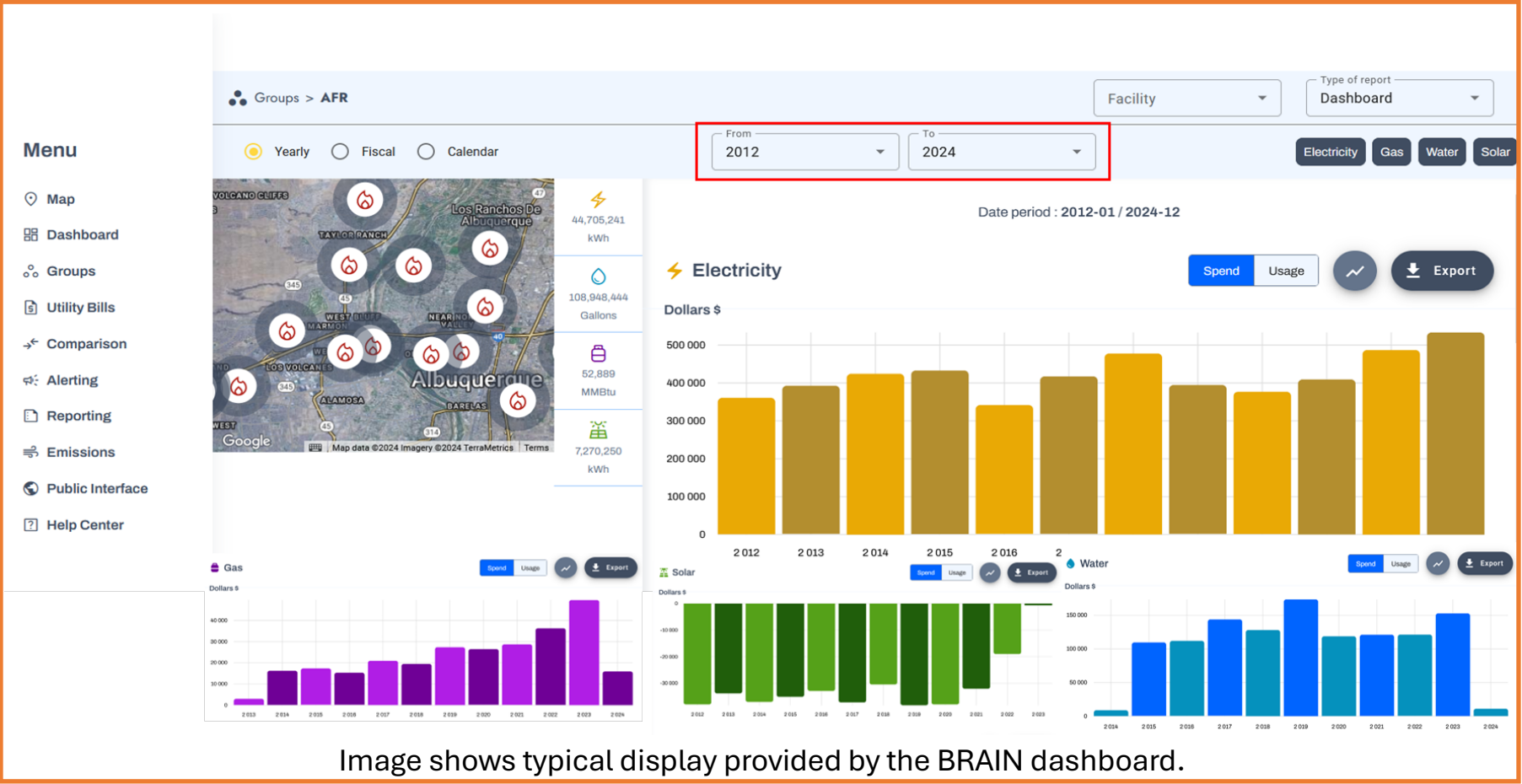


Image shows typical display provided by the BRAIN dashboard.