Academic Research Insights for Energy

SAS
THE POWER TO KNOW.

SAS Facts

SAS is ranked as a leader in advanced analytics and artificial intelligence.

SAS software is open, cloud-based, unified, and powerful.

SAS has customers in 147 countries

SAS software is installed at more than 83,000 customer sites.

The Role of Academia in Advancing Energy Research & Innovation

Universities continue to make outstanding contributions in research to advance innovation in energy practices. Research faculty and graduate students make up an essential part of the team of professionals working in these areas.

The energy sector is undergoing multiple transformations and disruptions, including climate change, transportation electrification, and sustainable energy practices. The industry is also very asset-intensive, requiring significant capital investments. In fact, the electric grid is described as the largest, most complex machine ever built. These conditions encourage the need for further research using reliable tools and forward-thinking policies and regulations.

Science provides the basis for new and sustainable approaches, solutions, and technologies to meet energy challenges, including net-zero revolution, electrifying transportation and buildings with renewable energy, aging infrastructure, cybersecurity, and securing a swift and fair energy transition. These energy challenges require sound policies supported by adequate resources and new scientific approaches to deploy sustainable solutions and appropriate technologies.

The contribution of the academic community is central to developing solutions to address mounting challenges through advancing energy sciences, research, and knowledge. As a result, it is then possible to prepare and test the appropriate frameworks and tools needed to address the challenges surrounding energy and utilities.

Challenges

Over 3,000 education institutions already use traditional SAS tools for statistical analysis in academic research. SAS for Academic Research Insights is a unified platform that addresses data challenges and provides researchers and their partners with analytical tools and resources. Our end-to-end analytics solution supports the lifecycle of research, thus accelerating innovation.

This modern, cloud-native technology drives successful collaboration by disseminating existing analytic resources. It accelerates data-driven insights and helps universities successfully capture highly competitive research and grant funding, thereby amplifying research outputs.

From a workforce development approach, utilizing Academic Research Insights exposes students to the art of the possible. By engaging with a comprehensive statistical platform, students and researchers can program in SAS or open source while collaborating within the same system.

Students see how their work supports others by integrating and managing data, setting an analytic plan, and presenting results. Researchers can easily access and share datasets, code, analytical models, data visualizations, and reporting templates with other researchers – both within and across research labs, departments, and institutions – all while maintaining necessary controls over sensitive data.

Our Approach

The establishment of a comprehensive energy analytics platform provides governments and research institutions with a clear view of their energy resource conditions and better decisioning capabilities. An analytics platform consolidates voluminous, disparate data and subsequently analyzes the data to enable a holistic perspective. Platform users can visualize results in both static and interactive reports. We approach energy and utility needs by providing software and services to help you:

- **Integrate Energy Forecasting Capabilities.** SAS helps collect and integrate multiple data sources stored in different systems across energy management districts, including local, state, and federal entities, to provide highly granular forecasts across all time horizons.

- **Deploy Asset Analytics.** SAS supports researchers by improving compliance with warranties for critical assets and understanding energy risks provided by an objective, data science-driven platform.

- **Ensure Data Governance.** SAS helps develop a consistent data governance and data quality strategy to define business rules and data standards across institutions, government, and industry partners, which is imperative to meaningful reporting.

- **Enhance Transparency and Reporting**. SAS will help create static and interactive reports researchers can use to prioritize scientific data including data monitoring, and analysis of energy use, bandwidth, and trends.

- **Monitor Real-time Situational Awareness.** With the inclusion of IoT streaming data and analytics, SAS can help researchers perform condition-based monitoring of energy assets and act accordingly. This also provides much needed in situ data for evaluating new technologies and energy usage.

- **Perform Analytic-Based Risk Assessment.** With SAS, gain predictive awareness of power failures, accidents, and improved emergency responses.

Benefits

Around the world, SAS is helping governments, agencies, and research institutions be better stewards of their resources, giving stakeholders and constituents a line of sight into efforts to improve energy conservation, bandwidth, security, and reliability. This increased efficiency brings concrete benefits to the universities and their energy partners:

- **Funding.** With federal funding support, the need for academic and government pursuits has never been stronger.

- **Policy Simulation.** Provides cutting-edge analytics to perform simulation and scenario analyses to determine potential impacts of policy decisions.

- **Collaboration.** Promotes collaboration among university researchers and their energy partners yielding new insights and discovery.

- **Publications.** Accelerates data analysis to disseminate findings in peer-reviewed publications and other outlets.

- **Broader Impacts**. Facilitates technology transfer to industry and broadens societal and market impacts of energy research.