

RBAC Inc.

Energy Industry Forecasting Systems

Robert E. Brooks, Ph.D.

Founder, RBAC Inc.



Dr. Brooks is the Founder of RBAC Inc. He is an applied mathematician, energy economist, and software systems designer with over thirty-five years of experience in developing decision support systems for business and government.

Dr. Brooks has earned degrees from the University of California at Berkeley, the University of Texas at Austin, and MIT. His doctoral research involved development of the first large-scale linear programming model of the North American natural gas pipeline grid.

After receiving his PhD from MIT, Dr. Brooks developed specialized natural gas grid models for use by DOE, FERC, and EPRI. He led technical development of President Carter's National Energy Transportation Study, identifying probable bottlenecks in US energy transportation infrastructure over the next 20 years.

Dr. Brooks designed the gas network model for Logistic Solutions' GRIDNET nominations management system. This system employs an extensive database of pipeline receipt and delivery points throughout the North American gas grid to compute optimal daily routings from production, storage, and market points to customer delivery points, customized for the firm's specific supply, transportation, and delivery contracts.

For RBAC, Dr. Brooks developed the GPCM[®] Natural Gas Market Forecasting System[™], the first pipeline-specific monthly, long-term model of the entire North American natural gas transportation and storage system. Since its introduction in 1997, GPCM has become the industry standard modeling software for natural gas market analysis in North America, licensed to North America's largest and most prominent energy producers, infrastructure developers, utilities, and consultants. In 2015 he completed development of the GPCM Power Model Interface, a reliable and efficient system for integrating highly granular power market models with the GPCM natural gas market model.

Dr. Brooks has also designed and developed a similar modeling system for the North American natural gas liquids market. The NGL-NA[®] model database comprises virtually all existing and planned NGL infrastructure in the US, Canada, and Mexico, from gas processing plants to fractionators, terminals, storage facilities, ethylene and propylene plants, and refineries. It also includes virtually all NGL mix and purity pipelines with their origins and destinations, as well as truck, rail, and barge links between the various facilities. Development was supported by major energy industry players to assure model realism and usefulness.

More recently Dr. Brooks has extended these successful concepts to global natural gas and LNG in RBAC's G2M2[®] Global Gas Market Modeling System. This extension also includes development of the G2M2 Power Model Interface for Europe. G2M2 has been employed to study the evolution of gas and LNG markets in Asia as well as the connection between prolific gas supplies in Eurasia and security of supply in Europe.