Consumer Benefits of Collaborative Research & Development for APGA

As energy markets continue to evolve, there is a need for ongoing investment in advanced technology. There are opportunities to lower energy consumption, provide significant economic and environmental benefits, enhance pipeline safety and increase operating efficiency. In addition, these help maintain system reliability and integrity for businesses and residential consumers.

Natural gas consumers recognize the value of supporting critical technology development as well as the importance of leveraging their investments with others who have similar interests.

Gas Technology Institute (GTI) succeeds in a broad array of collaborative projects to reduce the time and investment of getting new technology to market. We offer a consortium approach, through which a group of interested companies fund and help steer the direction of a project, while GTI manages the program and performs the research and product development.

Members of the utility consortium pool their resources for substantial financial leverage and capitalize on supplemental program funding from federal and state government sources and other industry stakeholders, benefitting utilities and their customers. Members typically note the following benefits:

- Highly cost effective with a benefit/cost ratio to the consumer of $4 to $1.
- Funders drive the R&D agenda and influence product/process development to address the needs of their company and the industry.
- Leverages collective intelligence, funding and experience of members to develop the best possible solutions.
- Typical project investment of $1 is leveraged by multiple funders to an effective $20.
- Provides opportunity for field demonstrations within a specific service territory, enabling acceptance by utility personnel, customers, channel partners, trade allies and regulators.
- Positions the utility to become an early adopter to realize cost savings and meet regulatory challenges that all benefit the end-user.

Technology Supporting Natural Gas Infrastructure

Operations Technology Development (OTD) was established in 2003 as an independent not-for-profit corporation led by 23 members who serve over 28 million natural gas consumers in 27 states and Canada. OTD develops, tests, and deploys new technologies related to integrity, safety, and reliability of gas infrastructure and operations.

Through a unique structure, focused planning, and built-in flexibility, OTD addresses the industry’s major needs and research challenges in distribution and transmission while providing companies with opportunities to support initiatives of specific interest.

OTD is well positioned to bring a wide array of benefits for both users and providers of natural gas. The organization supports research that results in useful information on various aspects of gas delivery and operations—such as pipe and leak location, pipe materials, repair and rehabilitation, excavation and site restoration, pipeline integrity management and automation, operations infrastructure, environmental, renewables, and gas quality—delivered via technical reports, models, and software tools.

Gas distribution system integrity R&D will help to ensure the continued safe operation of our gas systems. The development and use of efficient technologies such as line inspection tools and sensors, risk-based pipe replacement prioritization, and other operational and safety protocols is of critical importance to ensure reliable and safe operations for utilities and consumers alike.

Shaping the Energy Future with New Efficient End-Use Technologies

Utilization Technology Development (UTD) is at the forefront of cooperative research, development, and deployment for end-use equipment and
appliances. As a not-for-profit corporation established in 2004 and led by 16 member companies, over 22 million natural gas customers in 25 states and Canada are represented. UTD directs and sponsors a wide-ranging program to showcase the benefits of natural gas in residential, commercial, industrial, power generation, and transportation markets.

UTD creates efficient and cost-effective new technologies, identifies emerging needs and solutions, and complements utility energy efficiency programs. By taking R&D projects identified by members from the laboratory to the field, UTD enhances market success via field testing and demonstrations. Working with commercial partners, technology and market assessments are performed to enhance the competitiveness of gas-fueled equipment and provide consumers with emission and energy-cost savings.

End-use research, development and deployment brings enormous benefits of high-efficiency equipment directly to gas consumers and requires their funding to bring it to fruition. The world’s first high-efficiency furnace was developed by GTI in the 1980s with gas consumer funding. Even higher efficiency gas heat pumps and gas heat pump water heaters are currently in development. Residential consumers can see approximate savings of $120 annually when high-efficiency space and water heating appliances are used.

Natural gas also represents an option to help ensure resiliency to our local energy supply and distribution. For instance, R&D to develop combined heat and power and distributed generation systems will offer residential, institutional, and business customers options to ensure continued supply of both heat and electricity, even in weather disruption or other disasters.

Continued funding is required to bring these technologies through the final R&D stages.

Value and Benefits of Participation

As already noted, there are numerous benefits to working collaboratively to develop technology solutions. Funding is leveraged so no single utility is responsible for carrying the entire financial burden, which drives accomplishment of projects that couldn't be done on an individual basis.

Stronger solutions result from input by numerous expert sources, and broad industry support enhances the ability to gain the interest of a commercializer. In addition, a greater impact can be made on regulatory issues, such as pipeline integrity management, through coordination and collaboration of industry stakeholders.

By combining interests, expertise, and resources into focused R&D projects, innovative tools, enhanced processes, and advanced equipment are being delivered to the marketplace. Companies can come together to exchange information and ideas and tap into the experience of others, leading to more comprehensive outcomes and even greater consumer value.

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