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(PTAC)

Soheil Asgarpour has been president of PTAC since 2007. He has more than three decades of experience in the energy sector, as a senior government official and in executive positions with large oil and natural gas producers. PTAC draws from a membership base of more than 200 upstream producers, service and supply companies, government agencies and academic institutions.

Nurturing Oil and Natural Gas Innovation

A perspective from Soheil Asgarpour, President, Petroleum Technology Alliance Canada

Today, the oil and natural gas industry is driven more by technology and innovation than by resources.

Some 25 years ago, a first wave of innovation delivered sustainable technologies such as 3-D seismic and horizontal drilling – and pushed out the ultimate date for so-called “peak oil.” A second wave provided disruptive technologies, such as SAGD and multistage hydraulic fracturing, which resulted in major changes in the market, reduced oil and natural gas prices, and led to the United States becoming Canada’s biggest competitor.

Now a third wave of innovation is fast approaching, and it will have a profound and lasting impact on our sector and will focus on foundational digital technologies, which will result in a seismic shift throughout our sector.

In addition, market demand is rapidly changing; a growing number of consumers are willing to pay for clean energy, thus creating a new market for responsibly produced oil and natural gas. This presents both an opportunity and a challenge for Canada’s industry. The clear opportunity is to make fossil fuels reliable, affordable and clean energy, to the extent that we can compete with renewable energy sources. The challenge is developing and implementing the necessary technologies.

Bringing new inventions into the world is never an easy task. Innovators may come up with a great idea, but often they’ll struggle to get innovations tested in the field because they cannot secure funding or host sites for their work. Getting past these hurdles can be difficult, especially in the oil and natural gas industry where new technologies must clearly fill a need and be effective under real-world operating conditions.

What has PTAC done to position Canada as a global leader in the clean hydrocarbon energy economy?

Since its founding in 1997, PTAC has been a forum for hundreds of technology providers, producers, academia, regulators, government organizations, and investors to collaborate and advance new technologies. PTAC acts as facilitator, project manager, and even funder (contributing up to 15 per cent seed money to help move projects forward). A portion of the projects are supported through the Alberta Upstream Petroleum Research Fund (AUPRF), a research and development program sponsored by industry and managed by PTAC.

To date, PTAC has been instrumental in launching over 600 R&D and technology projects through consortiums and joint industry partnerships, and currently has a roster of nearly 100 active projects. These include managing industry's environmental footprint, improving oil and natural gas recovery, reducing operating cost or creating value-added products.

In 2017, PTAC's work focused on methane and GHG emissions. PTAC established a network of producers and technology firms studying more than 20 different methane-reduction technologies. Moreover, in November 2017, PTAC announced a partnership with the federal government and others on a multi-million-dollar initiative to support research aimed at improving the industry's ability to detect and reduce methane emissions during production.

PTAC's consortia have developed and field tested numerous technologies that currently have the collective capacity to reduce overall sector methane emissions by more than 30 per cent. In fact, four technologies are reducing GHG emissions equivalent to taking 160,000 cars off the road annually, while reducing industry costs by \$16 million annually.

PTAC intends to remain one of the industry's strongest technology champions to help more producers, more technology providers and more partners get engaged in expanding our industry's innovation ecosystem.

