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Global Significance of CCUS

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Summary

Carbon capture utilization and storage is currently an issue that is being hotly debated in board rooms, and in the halls of Congress, state legislatures, regulatory agencies, and on the international stage. Does it work? Is it cost-effective? Can businesses make money by deploying it? What does it mean for climate change, energy security, and the future of the oil and gas industry?

Despite significant increases in energy efficiency and renewable energy deployment, the world currently derives more than three-fourths of its total energy demand from fossil fuels – that cannot and will not change overnight. Meanwhile, fully one-third of the world's inhabitants still do not have access to reliable electricity, and accordingly world energy consumption is expected to increase by almost half over the next 30 years. Even with aggressive government policies to promote conversion to renewable energy, fossil fuels will likely supply much of that power. Their abundance, energy density, and low cost ensure that.

And so, carbon capture must be part of the solution. It is estimated that, to remain below 2-degrees Celsius warming by 2050, at least one-seventh of the reduction in carbon emissions must come from carbon capture applications. In real terms, that means today's carbon capture capacity of 40 million metric tonnes must grow to 4 billion metric tonnes. Failing to build that much capacity may increase the costs of reaching the target by as much as 138 percent. While advances in technology are promising, much greater investment by both business and governments is necessary if carbon capture is to achieve its potential.