

Fast-Track

Susan Nash¹

¹American Association of Petroleum Geologists

Abstract

The goal of this presentation is to evaluate the possible methods of converting high and low-volume natural gas that is currently stranded, flared, or shut in, waiting for a pipeline into ammonium fertilizer. There are a number of competing technologies and approaches, and they can be assessed in terms of the availability of inputs, infrastructure, and the specific needs of the market. In the case of ammonium nitrate fertilizer, some additives might be highly desirable in the production process depending on the market. Gas reservoirs, with pressures, geochemistry, and the nature of the associated reservoir fluids can also allow the deployment of different types of chemical plants. Further, produced water can be a part of the solution as well, as the water can be used in the process rather than being injected or hauled off. This approach represents a blended solution that takes advantage of the foundational skills possessed by geoscientists, which include reservoir modeling, reservoir characterization, chemistry, data analytics, project management and supply chain issues. A skid-mounted, mobile ammonium nitrate plant located at the wellhead or in the gas gathering plant could be quickly commissioned and start producing fertilizer quickly and safely. It represents a solution for crisis situations in times of shortages of agricultural inputs.

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