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# TALKING ESG IN TEXAS

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Few issues energise environmental campaigners more than fracking. The process of hydraulic fracturing of shale reserves has been linked to myriad environmental transgressions, most notably around its geological impact, pollution and water wastage. The result has been intense regulatory scrutiny, with bans in place in a number of countries at both a national and local level.

**DES ARMSTRONG**
Investment Manager

Despite some restrictions at a state level, however, the US has been far more open to fracking. This more supportive environment helped drive the US shale 'revolution', transforming the country's production of oil and natural gas.

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EOG is widely recognised as one of the founders of this revolution. Focused primarily on reserves in Texas and New Mexico, the company is a leader in North American exploration. This reputation has been earned through a longstanding commitment to harnessing technology to better interpret geological data and improve understanding of new drilling techniques and well stimulation. Since the early 90s, we've watched as its innovative approach has delivered a deep inventory of excellent quality, low-cost reserves and best-in-class well-completion capabilities.

That said, one area where EOG has been accused of being a little late to the party is ESG, or at least in addressing the 'E' element of its operations. I've long sensed that EOG was doing more from an environmental perspective than it was communicating, so an invitation to attend the company's first ESG-focused field trip was a fantastic opportunity to get a first-hand view of some of the work it's been doing in this area.

The trip centred on EOG's operations in the vast Permian Basin of West Texas and Southeast New Mexico. Starting early in the morning in Midland, Texas, we were taken north to the deepest section of one of the Permian's three sub-basins, the Delaware, where the company has approximately 400k acres of land leased. Donning hard hats, we were given a comprehensive walkthrough of the company's operations and how it is using technology to limit the environmental impact of pulling oil and gas out of a two million-year-old shale formation some 12 thousand feet under the ground.

EOG's operations can be split into three distinct stages: drilling; completion & production; and gathering & processing. Each of these is subject to environmental stress points. How EOG is dealing with these stress points illustrates exactly why it has a reputation as an industry innovator.

Take the combustion of diesel, which is responsible for a sizeable portion of EOG's greenhouse gas emissions. One example of how the company is working to reduce diesel consumption is through the adoption of e-frac technology, which uses natural gas, rather than diesel, to power its pressure pumping equipment. The resultant reduction in emissions is estimated in the region of 40%.

The benefits don't stop at the environmental level, however, the move to e-frac also makes good business sense. Through savings on diesel costs and because natural gas is a by-product of the extraction process, EOG told me the technology typically saves it around $200k per well.

*"One example of how EOG is working to reduce diesel consumption is through the adoption of e-frac technology"*

I was also struck by the progress EOG has made on water re-use. The amount of water involved in fracking is huge, which has long been a criticism levelled at the industry. Not only is freshwater needed during the fracturing process, but contaminated wastewater, known as produced water, then rises to the surface. Typically, US shale producers have injected their wastewater into deep disposal wells, but EOG is now making significant strides in recycling its produced water. In the Delaware Basin, the company is now reusing 90% compared to 60% in 2018. Freshwater use is down to 9%.

*"By reducing water costs, the company has made material savings in operating expenses and capital expenditure"*

This has been driven by a number of factors but key has been the extensive infrastructure investment. EOG now has over 500 miles of produced water gathering pipeline, nine one-million barrel water reuse pits, five treatment facilities and 27 miles of water reuse distribution pipeline. The site I visited processes between 70k to 120k barrels of water per day into the reuse pit. I was also able to observe the company's impressive proprietary water management system in action. The system, named Trident, allows 'real-time' modelling of water distribution and gives EOG the ability to optimise its water transportation needs.

How EOG is approaching its use of water is another example of where adopting sound ESG practices makes financial sense. One of the business's largest operating expenses is water. By reducing water costs, the company has made material savings in operating expenses and capital expenditure.

Other notable highlights for me included a pilot solar and natural gas scheme to replace the diesel powered generators it uses to deliver the necessary compression to distribute vast quantities of its products across its piped infrastructure. Elsewhere,

fugitive gas emissions have been reduced by 90% with the rollout of its LDAR (Leak Detection and Repair) programme, which involves the inspection of over nine million components. Next stop, a pilot drone LDAR programme; for EOG, innovation is a constant.

> *"What really shone through was the alignment of EOG's corporate strategy with its sustainability goals"*

This commitment to investing in innovative technology to drive efficiencies, and in turn improve a number of its environmental outcomes, really was one of the standout takeaways from my time with EOG. The quantity of real-time data the company has access to, and how it uses this to monitor and optimise its operations, is a genuine differentiator.

Indeed, looked at one way, EOG is a bit like a technology company that just happens to pull stuff up from the ground.

Ahead of a trip like this, there is always the concern that the message will be too controlled and light on detail. In this case, my concerns were unfounded. I spent a lot of time speaking with EOG's senior management as well as more junior but equally impressive talent. This in itself was interesting and conveyed the trust that management have in its people and the responsibility they're willing to bestow to the next generation.

What really shone through was the alignment of EOG's corporate strategy, and its emphasis on culture, data, technology and returns, with its sustainability goals. All of the company's ESG initiatives have been enabled by its business strategy rather than being developed merely to create an impression of being 'good.'

Not only are the building blocks of a comprehensive ESG strategy firmly in place, but collectively those blocks have the potential to reduce EOG's direct environmental footprint to a meaningfully low level. EOG's implicit aspiration to become one of the world's most environmentally operationally efficient companies, not just within oil and gas, is to be applauded. The company's roadmap to deliver this is credible and is being aggressively pursued by its management team.

After two days of what was an invaluable trip, I left impressed by the progress, success and financial merits of EOG's environmentally focused innovation and investment. As a complement to the in-depth, desk-based research we carry out back home in Edinburgh, what I learned reaffirmed my confidence in the company, its management and its culture. EOG has a very positive story to tell.



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