

Natural Resource Trends

Mining industry focuses on safety, speed and certainty
Oil and Gas opportunity centers on the shale revolution

Natural resource extraction is undergoing a transformation as emerging trends like safety and CSR gain traction in the mining sector. If carefully handled, mining could thrive amid a new world of opportunities. Meanwhile, the oil and gas industry is truly experiencing a revolution which is transforming the global energy balance of power, and bringing geopolitical ramifications with it.

As insights from Alexander Proudfoot's global natural resources summit demonstrate, a seam of similarity runs through several seemingly disparate areas. Chaired by mining veteran Algy Cluff, the event saw Jim Gowans, co-president of Toronto-based gold producer Barrick Gold Corporation, outline the incremental opportunities available from meeting global challenges in metals and mining. Steven Mueller, chairman, president and chief executive of America's Southwestern Energy Company, then ensured that no attendee was left unaware of the sheer extent of the brave new world rapidly opening up in US gas.

These are, indeed, very different worlds but the five banner themes remained the same for both discussions:

- disciplined execution
- speed and certainty
- increased shareholder value
- an ability to work together effectively
- the creation of lasting positive change



James (Jim) Gowans
Co-President, Barrick

Jim Gowans is a seasoned mining operator with four decades of global industry experience including DeBeers SA, where he was Managing Director of Debswana (a subsidiary of DeBeers SA), Chief Operating Officer/Chief Technical Officer of DeBeers SA, and President and CEO of DeBeers Canada. Formerly, he worked for eight years at Placer Dome, was Senior Vice President and Chief Operating Officer at PT Inco and Operations Manager for Potash Operations Cominco as well as General Manager of the Red Dog zinc mine. He is a professional engineer with a Bachelor of Applied Science in Mineral Engineering and a Director of Cameco Corporation and PhosCan Chemical Company.



Steven L. Mueller
Chairman of the Board, President and Chief Executive Officer, Southwestern Energy Company

Mr. Mueller is Chairman of the Board of Directors and President and Chief Executive Officer of Southwestern Energy Company. Elected as Chairman in May 2014, he has held the Chief Executive Officer title since May 2009. Prior to that, he served as the President and Chief Operating Officer of the Company. He has over 30 years of experience in the oil and gas industry and has served in multiple operational and managerial roles at Tenneco Oil Company, Fina Oil Company, American Exploration Company, Belco Oil & Gas Company and The Houston Exploration Company. He has a degree in geologic engineering from the Colorado School of Mines.

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Jim Gowans

Global challenges in metals and mining

Responses to mining’s current challenges – ranging from a quest for truly safe production to the need for greater productivity, better skills development and transfer, and improved community relations – expose an industry adapting to lower commodity prices and geopolitical uncertainty.

“We’ve done an amazing job in the mining industry in terms of safety, driving down our total reportable lost time due to injuries and medical treatment, but we still have issues,” said Mr Gowans.

Constant pressure to improve productivity and drive cost reductions has been key in bringing about change, Mr Gowans added, while community relations are also pivotal, especially as miners are often the first industry to enter an area seeing rapid economic development. “Developing and transferring our core skills in those areas to create value is absolutely critical.”

Consultants have a key role to play in helping to create high-performing organisations in these crucial areas, Mr Gowans believes, having worked with Alexander Proudfoot in his former role as managing director of DeBeers subsidiary Debswana in Botswana.

“We asked what we had to do to create more value in what were arguably the best mining assets of any almost commodity in the world,” he said.

“Then, in 2008, demand for our diamonds went from 100 percent to zero in two months. So the question became ‘How we could improve our performance to re-link supply and demand as well as adapt our management and cost structures to match the new reality?’.”

With Alexander Proudfoot’s help, he said, the company focused on productivity and safety improvements, resulting in metrics that are now world-class.

Barrick is now working with Alexander Proudfoot to standardise operational systems as its Pueblo Viejo gold mine in the Dominican Republic progresses from a project to operational phase. At the Veladero gold mine in Argentina, collaboration is helping to combat problems associated with the country’s economic and trade issues.

“If you’re an opportunities junkie, there’s always a way to unlock value,” said Mr Gowans. “I think there’s a real opportunity for partnerships between mining companies and organisations like Alexander Proudfoot to take a longer-term systematic approach, deploying advanced technology and best practices, and to keep testing areas where there could be value creation.”

The shale revolution

Growth is not a problem for Steven Mueller, Chairman of the Board, President and Chief Executive Officer of Southwestern Energy. Southwestern, an 80-year-old company based in Houston, Texas, barely ranked in the top 100 gas producers in the US in 2005. Now it is America’s fourth largest ‘fracking’ gas producer, with a stock market capitalisation of \$13.7 billion.

Southwestern’s transformation is suggestive of America’s shale gas revolution more generally, with horizontal drilling, a trend to exploit unconventional targets and fracture stimulation technology coming together. The result is a new industry paradigm that has already transformed the US from a net energy importer to the world’s biggest natural gas producer.

The focus has now shifted from seismic technology to deep water and fracking processes, with deep water oil and gas forecast to rise from 6 percent of US oil and gas production in 2010 to 9 percent in 2020, according to Total.

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Steve Mueller

“All resources deplete but something has happened in the US that has reset the clock,” said Mr Mueller. “From the 1970s until 2007, gas production was declining in the US. The economy crashed in 2008 and the gas price dropped. Since then, there’s been an oil and gas industry equivalent of the ‘Moore’s Law’ in computer technology.”

As Moore’s Law posited that the speed of a computer chip would double every 18 months to two years, the speed of getting gas out of the ground seems to double every three-and-a-half years, Mr Mueller added. “It’s started in 2008, so we’re on a very fast learning curve.”

Mr Mueller believes US regulatory authorities now accept that fracking operations can be handled safely. However, community issues, mainly involving truck traffic and noise, still pose reputational threats (Southwestern is drilling around 400 wells per year, for example). Water use, greenhouse gas production and the impact on agriculture and electric power also remain issues.

More generally, the implications of the shale revolution in terms of Western energy independence are only beginning to be understood, Mr Mueller believes. “If you took the gas used in Europe and Japan since 2008 and paid the US prices for it, you would have paid \$859 billion less,” he said. “In the US last year, £144 billion was invested in my entire industry. So six years of our annual capital budget was paid by Europe and Japan.”

The consequences for the US could be economically transformative, he added. “Look at how many companies have announced they’re going back to the US. Every major chemicals-maker in the world is now building plants in the US. For the first time in over 30 years, US Steel can make steel in the US cheaper than India can.”

Still, the positive effects will be localised, primarily benefiting the US, at least for now. “This gas is mostly going to be used in the US. It’s not going to save London or save Europe: it’s going to save the US. This is a major paradigm shift in the way we think about the US and the world. If you’re not thinking about that shift, you’re probably not doing your business right.”

Adding value in mining

The global challenges in today’s natural resources industry present opportunities for Alexander Proudfoot, whether helping traditional miners increase productivity and improve safety, or assisting fracking pioneers to standardise industrial systems and deal with environmental issues.

“Everybody talks about natural resources and the cycle, the ups and downs, whether in commodities or energy prices, which is driven by the dynamic of pitching corporate quarterly earnings against the very long-term impact of having to extract natural resources,” said Jon Wylie, chief operating officer of Alexander Proudfoot’s global natural resources practice.

“These are the stresses and strains but overall, the amount of natural resources is finite and, therefore, the price of these commodities is going to go up over the long term as the population expands. We also have to find methods of using these commodities cleanly and efficiently. We’ve been very successful in helping companies deal with these issues and we still have much to offer.”