

Maximizing the Value of Energy while Minimizing its Environmental Impacts

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As the “Just Transition” journey to a Low-carbon, and ultimately a Carbon-neutral society continues, companies such as ours are focused on maximizing the value of energy while minimizing its environmental impacts. This is becoming increasingly critical as the demand for reliable power alternatives literally surges. The purpose of our participation in COP-29 is to highlight some of the technological advances and operating innovations that are increasing the sustainability of low carbon fuels as a responsible and stable bridge for the Energy Transition to net-zero energy.

My name is Don Streu and I’m the President and CEO of Condor Energies, an Alberta, Canada-based energy transition company. Over the past 18 years, Condor has invested over \$300 million in Central Asia and has plans to invest several hundred million more over the next 5 to 6 years. Since beginning our activities in Kazakhstan in 2007, we have developed multiple oil and gas discoveries as part of the Company’s grass-roots exploration programs. Four years ago, our Company made a strategic decision to focus on energy transition and we are now maturing three distinct energy transition initiatives.

Our first initiative is to displace high-carbon diesel fuel used in high-horsepower engines with low-carbon Liquified Natural Gas, or LNG.

The second is the refurbishment of natural gas fields to increase domestic natural gas supplies in the region while concurrently reducing the emission intensities.

Our third initiative is to produce battery grade lithium by applying evolving technologies that dramatically reduce the environmental footprint and freshwater requirements commonly utilized in this sector.

We’ve benefited by having Condor’s head office in Alberta, as it has provided us with exposure to multi-sector, market-leading technologies and applications, along with a high-level of regulatory oversight, all of which are aimed at reducing emissions.

Alberta’s conventional oil and gas producers have been global leaders in emissions management. Examples date back to the 1990’s when regulations were adopted to reduce emissions caused by flaring, to the mid-2010’s, when methane emission reduction targets were first introduced by the Provincial Government. The province’s Natural Gas Vision and Strategy supports natural gas as a low carbon fuel for the industrial and transportation sectors, together with a transition to hydrogen fuel. The results have been a decrease in absolute emission levels in the province while at the same time supporting an increase in hydrocarbon production. The province remains on track to achieve its 2050 net zero target. So how is Condor applying these learnings and philosophies in Central Asia?

1) LNG production to displace diesel fuel in high horsepower engines

Condor is developing multiple, ‘localized’ modular LNG facilities in Kazakhstan and will produce, distribute, and sell LNG to offset industrial diesel usage. This is a critical component in supporting Kazakhstan’s energy transition to net zero, since replacing Diesel with an LNG fuel will significantly reduce Carbon Emissions while increasing operational efficiencies. LNG has 30% lower GHG emissions, 95% lower particulate emissions and 100% lower sulfur emissions compared to diesel.

Already proven LNG applications include mining equipment, train locomotives, long-haul truck fleets, marine vessels, power generation, and other machinery with high-horsepower diesel engines. Multiple studies have demonstrated that LNG-powered heavy equipment users benefit through reduced operating and maintenance costs, an extension of the equipment’s operating range and speed, and longer engine life. LNG can also be used as a “virtual pipeline” to unlock the potential of remote natural gas fields that are stranded from pipeline infrastructure, or to gasify communities that have no pipeline access.

Based on Condor’s current LNG feed gas supplies, 280 of Kazakhstan’s 1400 locomotives could be converted to utilize LNG or an LNG-Diesel mixture, with a resulting emissions reduction equal to that of removing 38,000 vehicles from the road annually. LNG is also more environmentally friendly in the event of an accident, since the release of LNG would not lead to soil or water contamination.

Furthermore, stable, direct, and adequately sized transportation routes are paramount to successful and sustainable foreign trade between the EU and China, which is exactly why Kazakhstan is materially expanding the Middle Corridor through its country. Here again, LNG will play a critical role in addressing the expanded Middle Corridor’s increased fuel supply needs.

Condor’s planned LNG investments over the next 5-6 years targets several hundred million dollars and creates hundreds of permanent jobs. The introduction of LNG into Kazakhstan’s transport sector will reduce emissions in support of the President’s commitment to achieve carbon neutrality by 2060. It will also help to modernize the railway and marine fleets, in conjunction with the expansion of freight movement via the Middle Corridor and add to the overall manufacturing base of the country’s economy. Condor is working closely with the country’s national railway and marine companies to deliver the first LNG in the second half of 2026.

2) Gas Field Refurbishment

According to an IEA report published for last year’s COP 28, reducing Scope 1 and 2 emissions from oil and gas operations is one of the most viable and lowest cost options available to reduce total GHG emissions by 2030.

Our Company is committed to growing Central Asia's natural gas supply, while simultaneously reducing Scope 1 and 2 emissions, which can be achieved through a combination of refurbishing existing gas fields by using modern technologies and innovative solutions.

Earlier this year, Condor began refurbishment operations on eight producing natural gas fields in Central Asia. These fields were experiencing production declines of twenty percent per year. By introducing technologies, innovations, and operating practices routinely utilized in Alberta, the decline rate has not only flattened, but gas production is increasing with a corresponding reduction in fugitive emissions.

The Company is also currently installing proven artificial lift equipment and infield water separation equipment manufactured in Alberta, perforating newly identified intervals, performing downhole stimulation treatments, facility upgrades and introducing new operating methodologies. Our facilities have recently been outfitted with solar panels. Multi-lateral infill drilling is planned for 2025 to increase production from existing zones and develop previously uneconomic horizons of the gas reservoirs.

Condor's ongoing initiatives in the region clearly support the IEA's COP 28 findings and guidelines.

3) Lithium extraction from Brines for Electric Vehicle battery manufacturing

Kazakhstan is blessed with some of the world's largest critical mineral and rare earth reserves, including lithium. These abundant resources play an important role in advancing global energy transition efforts and associated renewable energy initiatives, as all are important components in the fabrication of electric vehicle ("EV") batteries, wind turbines, solar photovoltaic panels, and electrical cables. Condor is developing a lithium project in Kazakhstan that is strategically located between Europe and China, providing direct access to existing and robust lithium markets.

There are currently two prevailing methods to extract lithium. The first involves dissolving underground salt deposits by injecting water into the reservoirs and then pumping the brine to surface, where the liquids slowly evaporate prior to the extraction of the lithium. The second method is to mine spodumene using open-pit mining practices. However, both forms of lithium extraction have significant negative environmental impacts.

Instead, Condor is focusing its efforts on utilizing technical innovations currently being developed in the sector, whereby wells will be drilled to recover lithium-rich brines from saltwater aquifers. Once at surface, the lithium is separated mechanically, and the remaining salt water is reinjected into the same deep reservoirs where it came from. We are also planning to construct a renewable power generation facility to allow us to achieve net-zero emissions from our future lithium production.

Conclusion

To summarize, Energy Transition requires a combined focus on adapting net-zero technologies while also supplying reliable and sustainable low carbon energy as an energy-transition-bridge. Condor's initiatives are delivering 3 critical pathways in the transition to net zero:

- Replacement of high carbon fuels with low carbon fuels
- Improvements and efficiencies to produce more natural gas with less emissions intensity
- And new, lower emission technologies that will take us to net-zero energy

We firmly believe that the path to a 'no carbon' economy is via 'low carbon' energy transition technologies that will ensure sustainable energy alternatives for the world's economy.