A GLOBAL ENERGY AND FOOD SECURITY LEADER

The pandemic and recent geopolitical events, such as Russia's invasion of Ukraine, have demonstrated the world's interdependence to an extent that surpassed accepted notions. The lack of supply chain resiliency, weakened energy security, increased need for reliable food production, and disastrous weather events are hot topics. Amidst the global turmoil, Saskatchewan has emerged as a strong, reliable, and sustainable supplier of choice for the products the world needs.

Saskatchewan's uranium and potash producers have entered a new growth commodity cycle. For the uranium market, "this cycle is marked by low inventory, depleted mine reserves and minimal production below consumption," says Jerry Grandey, former CEO of Cameco Corporation and former board member of Nutrien. "For the first time in a long time, nuclear is increasingly looked at to meet the increasing demand in electricity while combatting climate change, and as a secure source of energy for individual jurisdictions through long-term agreements."

Although uranium production and nuclear energy had their start in military applications, previous cycles helped establish their reliability for commercial markets. Uranium had the promise of being a cheap energy source; it was viewed as a scarce commodity and its price drove government energy policy. To evolve from its military past, producers and national and international regulatory bodies established country of origin tracking requirements and trade policies. Producers and customers ensured security of supply through the establishment of long-term agreements. Today's cycle builds on this foundation and adds new elements, such as rapid innovation in mining techniques and nuclear power plant technologies, and sustainability through ESG (environment, social and governance) compliance considerations for producers and utilities.

Grandey explains that the emergence of small modular reactor (SMR) technology (100-300 megawatts), with about 50 designs under development around the world,

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MC headframe – Cameco McArthur River Mine

FEATURE

Scissors Creek – Nutrien Rocanville

is one of the solutions to bring reliable energy to markets that may not have been able to afford large scale nuclear power plants over 1,000 megawatts nor have the population base to justify one. "SMR technologies are being evaluated and selected in many jurisdictions including in Canada. However it still takes time to permit the technology, license it and built the plant; a 10-year period would not be unusual. Also, although the capital costs are inferior to that of conventional nuclear power plants, they are still quite high. But we have to remember that the high capital costs are offset by the extremely low operating costs compared to other sources of energy. So the good news is that within the next decade the SMRs currently going through licensing and those already under construction will be deployed. SMRs will be the way for small markets," adds Grandey.

Similarly, potash production and distribution has entered a new bullish cycle. After four years of low commodity prices, the sanctions imposed on Belarus, the ongoing war in Ukraine and the depletion of stockpiles, the commodity price is once again on the upswing. Food prices are going up at the same time as fertilizer prices. Larry Long, Senior Vice President Operations, Potash at Nutrien, says that "We anticipate that when the war in Ukraine stops, the sanctions are lifted and trade relations re-established, that it will take time to rebuild confidence in some parts of the world."

"With the world's largest fertilizer producer here, Saskatchewan is in a good position to produce the crop nutrients global farmers need, and to grow the food we need locally and nationally. The difficulty lies in global transportation. We need reliable rail and marine shipping services. Transportation is the limiting factor to production and to worldwide distribution. The key for Saskatchewan producers, who are landlocked is the ability to get their product to either coast to deliver to our customers in a timely fashion," adds Long.

Alanna Koch, former Saskatchewan Deputy Minister of Agriculture and Chairperson of the board of directors of the Saskatoon based Global Institute for Food Security (GIFS), confirms that there has been significant improvement in global food security in the past 20 years. "We have seen innovations in crop productivity thanks to the better use of inputs such as fertilizer. And the advancements in crop genetics, with varieties resistant to droughts or extreme heat for example, have also contributed to the progress in food security."

Yet, Koch points out that for the first time in decades they are seeing a slide backwards under the current geopolitical situation. "The impact of the war in Ukraine, short-sighted government policies, the COVID-19 pandemic and the ensuing rise in crop input prices and food prices mean that it is a challenge to feed the hungry and maintain healthy diets around the world. The solutions rest in fertilizer and crop innovation and access to technology to enhance the use inputs, predict yields and to distribute these advancements to those that need them," says Koch.

Whether on the clean energy or food security front, the current geopolitical situation amplifies Saskatchewan's resourceful position as a secure, reliable and sustainable trading partner to fuel and feed the world.