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Sustainable Paths Entail Vision, Focus

By Chris Kalnin, Chief Executive Officer at BKV Corporation

Corporate sustainability has become a vague phrase, invoking your inner skeptic to question what it really means and how it is consistently measured, specifically across the energy industry. Right or wrong, energy companies have developed a reputation for making bold claims when it comes to sustainability.

Yes, BKV Corporation is an energy company—one with bold plans and big goals—yet, we acknowledge that it is one thing to say it and another to actually do it. That brings us to, what makes BKV different?

Well, for one, we believe climate change is real, and we believe it is time for energy companies to drive solutions to climate change. Going one step further, BKV's climate change efforts run in parallel with our sustainability mission to diversify and support energy transition to reduce our country's dependence on foreign energy. We want to prove that the production of low-impact, sustainable energy isn't simply a good idea, it's good business.

In 2015, we had the simple idea that the unquenchable demand for energy and the need to take care of the planet would require the creation of a different kind of energy company. BKV was created, and since then, we have enlisted the smartest talent, set aggressive operational targets, and defined a clear strategic path to lead the industry toward the safe and profitable production of net-zero natural gas.

In seven years, BKV has become one of the top 20 gas-weighted natural gas producers in the United States and the largest natural gas producer in the Barnett Shale. And now with approximately 400 employees, inclusive of our latest acquisition in the Barnett, we are continuing down the path for net-zero natural gas by deploying new and existing technology to drive efficiencies and modernize our operations.

We are often asked, 'how were you able to position BKV to quickly capitalize on opportunities and generate success in such a short time frame?' The answer—we have focused on maintaining a clear strategy, being nimble, and having strong values to guide our company. If something operationally or transactionally does not create value or align with who we are, we don't do it. With a clear strategy in place, we can operate at the highest level of integrity to take smart risks, leverage growth through acquisition, and build strategic partnerships.

Prior to sharing how we are making good on our commitment to actionable change today, it is critical to address the current state of the global energy market. Russia's war in Ukraine has dramatically impacted our beliefs about the future of energy. Pre-conflict, we perceived Russia as a major supplier of both oil and gas (and commodities) now and in the future. We watched Russia and China link arms as trade between them grew quickly. While on the other hand, Europe's physical and energy security appeared relaxed. Lastly, it seemed as if the post-pandemic global economic recovery was underway albeit with concerns around inflation and distribution of the recovery.

However, many anticipate Russia's ability to supply additional oil and gas has the potential to be significantly constrained due to sanctions. China has been cautious about its budding relationship with Russia due to high global scrutiny. And with significant concerns around inflation and variability in the economic outlook, many feel less optimistic about global economic recovery.

According to the International Energy Agency, 40 percent of the total European Union gas demand was coming from Russia in 2021, which has led Europe to actively seek to diversify its natural gas supply towards LNG alternatives. As a result, the U.S. is in a unique position to support and enable Europe's transition toward diversification and energy transition.

With LNG utilization at an all-time high in the U.S. and significant increases in cargoes to Europe, the dynamics are creating the potential for a massive second wave of LNG build in the U.S., particularly around the Gulf Coast. However, the existing infrastructure constraints will present a challenge for delivering gas to the coast, positioning the basins below "the arc of pain" to benefit most from these demand tailwinds.

Strategically located below this arc, the Barnett's existing infrastructure has tremendous pipe capacity headroom to supply gas towards the Gulf Coast markets. It also has shallow decline rates—as compared to all other gas basins—making it ideal for low capital reinvestment, high-reliability gas supply. Low decline rates mean higher predictability, or less risk, for forecasting production delivery.

So, the question remains. How does this impact BKV's path to net-zero natural gas? The short answer is—significantly.

As a private energy company focused on acquiring and developing high-quality natural gas production, midstream, and power assets, we have made several acquisitions over the past two years that have grown our operational footprint to stretch across Texas and throughout the Northeastern Pennsylvania Marcellus. Now that we have officially closed on the acquisition of XTO Energy's natural gas upstream and associated midstream infrastructure in the Barnett, our total production and total reserves are approximately 900 MMcfe/d and 5.8 Tcfe, respectively. We have roughly 7,348 producing wells across 487,000 net acres, and our natural-gas-fueled power plant in Temple, Texas, produces a heat rate of 7,000 Btu/kWh at a capacity of 750 MW+.

With this operational footprint in place, BKV can take what we call a "closed-loop," four-step approach to net-zero. The loop starts with our upstream assets where we are diligently implementing a robust emissions reduction program aimed at achieving net-zero emissions across Scope 1 and Scope 2 by 2025.

A bold claim? No, and here's why.

We project over 70 percent of our Scope 1 and Scope 2 emission reductions will be met through internal investments in technological innovations and operational optimization. We have invested [approximately] \$12 million to prototype and deploy electrified components into the production process, convert pneumatic gas instruments, enhance measurement technology, remove redundant equipment, and develop and draw on renewable energy sources, among other operational improvements.

Our Pad of the Future program is anticipated to be the primary contributor to the expected reduction in emissions. This program will upgrade existing facilities with modern technologies and eliminate emissions through four key elements, including asset consolidation, pneumatic conversion, electrification, and liquid consolidation and vapor capture. "Project Air Jordan," our efforts to swap out pneumatic natural gas devices with instrument air devices, is a great example that illustrates how we're upholding our commitment the BKV way—innovating and deploying solutions to reduce our own emissions versus buying carbon offsets alone.

BKV Technical Services Forman Cason Jordan and his team were given the benevolent challenge of

inventorying all the pneumatics and converting them to instrument air. The process was anything but simple. It required a total pad retrofit, including downsizing, removing equipment, and replacing the natural gas pneumatics with instrument air—and that was just one element of Project Air Jordan.

From 2021 to mid-year 2022, we tested air compression on 844 pads, a total of 1,445 wells. We converted 5,686 pneumatic devices, eliminated 343,794 mTCO₂e emissions, and inventoried more than 16,000 devices. We anticipate eliminating Scope 1 emissions associated with pneumatic devices by 637,717 mTCO₂e by end of 2022. By 2023, we expect to eliminate Scope 1 emissions associated with pneumatic devices, pneumatic pumps, and TEGs by 371,983 mTCO₂e.

The second component of our “closed-loop” approach is creating synergistic opportunities with our upstream assets by pursuing midstream and power assets. For example, our most recent Barnett acquisition presents extensive synergies by allowing us to partner with a credible third party to certify our responsibly sourced gas (RSG) at the wellhead and have additional access to premier Gulf Coast markets, building upon what was previously established to drive value through our continued expansion in the Barnett. We also announced in March a collaboration with Project Canary to apply first-of-its-kind environmental assessments and monitoring programs for our operations with the goal to deliver RSG to our power plant in Temple.

Another component of our net-zero approach is looking at near-term emission reductions and projects, such as pursuing attractive near-term carbon and methane capture opportunities. We hope to fast-track our Scope 1 and 2 methane abatement on existing business and grow business to nearby operators to create and obtain third-party carbon credits.

To close the loop—and most notably as of late—is our focus on moving large-scale carbon reduction projects forward. We have developed a dedicated business unit dCarbon Ventures that will be focused on carbon capture and sequestration (CCS) projects. Through our recent partnership with EnLink in the Barnett, we anticipate being amongst the first commercial secured geologic sequestration projects to come online in the U.S.

We will continue to produce natural gas containing carbon dioxide from our Barnett Shale area operations, and EnLink will transport the natural gas via its modified pipeline and facility infrastructure to the EnLink natural gas processing plant in Bridgeport, Texas. At the Bridgeport plant, the carbon dioxide waste stream will be captured, compressed, and then disposed of and sequestered via our nearby injection well.

Why the Barnett? Well, that’s an easy answer. It checked all the boxes for us. Our strategic partnership with EnLink, extensive synergies of existing infrastructure in the Barnett, potential second LNG wave, and proximity to the Gulf Coast markets—every action we have taken has been for the future of sustainability—now.

Without action, sustainability is just a word. At BKV, it’s in our DNA—embedded in everything we do. We believe that the U.S. energy industry is best placed to lead the world in addressing climate change while providing abundant affordable energy, and we believe BKV will lead the way for our industry to do this.