

Carbon Credits and Markets

Update to the Joint Minerals, Business and Economic Development Committee of the Wyoming Legislature

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Introduction

The State of Wyoming is a leader in carbon dioxide (CO₂) assets, infrastructure, policy, research and development. Wyoming is unique among most states because of its commitment to both CO₂ reduction and continued use of fossil fuels.

Wyoming technology companies, agriculture producers, and other stakeholders are working to take advantage of increased demand for lower carbon, carbon neutral, net negative or carbon negative technologies, products and processes.

Wyoming projects, including the Integrated Test Center and CarbonSafe, encourage development of carbon-to-value (CTV) technologies while providing an avenue for use of coal and other fossil fuels. These types of projects, including but not limited to Carbon Capture and Sequestration (CCS) and Carbon Capture, Utilization and Sequestration (CCUS), are expensive and technologically challenging. The ability to build and commercialize such projects in Wyoming is dependent on reliable revenue streams.

While a handful of federal tax incentives, such as the section 45Q tax incentive for CCS/CCUS, exist to help Wyoming stakeholders looking to monetize CO₂ reductions, additional capital is frequently needed. In addition to federal tax incentives, one mechanism to monetize low-carbon projects are voluntary carbon (or CO₂) markets. In those markets, companies that have lowered their carbon emissions or produced credits through removal of CO₂ from the atmosphere can sometimes sell their emission reductions or removals to Environment, Social and Governance investors and others who want them for a variety of reasons, such as offsetting their own emissions to meet corporate emissions and CO₂ goals.

Although current voluntary carbon markets work for many -- including some Wyoming companies that have participated in these markets in the past -- the markets are limited by opacity, perceived credibility and tradability across exchanges, making them unpredictable and confusing to many. Many entities are working to solve these and related problems, but challenges and uncertainty remain. Specifically, we know from conversations with stakeholders that it is difficult, expensive and time-consuming for Wyoming CTV technology companies, agriculture producers, low-CO₂ project developers and others within the state to know where to start participating in voluntary carbon markets, understand if they are getting a fair price for CO₂ reductions/removals, and gain approval for new methodologies or protocols that are needed to generate voluntary carbon credits. These challenges create business and investment risk for Wyoming companies desiring to participate in the voluntary carbon market. These challenges are felt by market participants across the globe, so overcoming them in Wyoming presents an opportunity to create and enhance competitive advantages for Wyoming stakeholders and the state as a whole. Solutions that may take advantage of this opportunity, including

technical assistance for market participants, development of specific Wyoming-centric methodologies, development of a new Wyoming CO₂ regulatory market framework, and codification of private-sector market frameworks, are described below.

Iterative Exploratory Approach

We are using an iterative exploratory approach to (1) understand if and how the State of Wyoming can offer value to market participants and benefit Wyoming stakeholders, and (2) develop and test solutions. At the June 25, 2021 meeting of the Joint Minerals, Business & Economic Development Committee, the Wyoming Business Council reported on outreach to date. Since then, we have continued outreach to gain understanding of perspectives and problems and have begun designing solutions collaboratively.

Wyoming value proposition?			
Step 1	Step 2	Step 3	Step 4
<p>Understand Perspectives and Problems</p> <p>Individual outreach to experts, end users, and stakeholders.</p>	<p>Collaborative Solution Design (if applicable)</p> <p>If there is a problem that may be solved by state of Wyoming, solutions will be designed to meet end user demand and stakeholder needs</p>	<p>Test and Refine Solutions</p> <p>Improvements based on hypothetical and real test cases</p>	<p>Execute</p> <p>Continuously improve</p>

Potential Wyoming Solutions

The following solutions may be implemented to help overcome the challenges that Wyoming stakeholders face, including difficult, expensive, and time-consuming entrance into CO₂ markets, not knowing where to start participating in the voluntary carbon market, understanding if they are getting a fair price for CO₂ reductions/removals, and time and expense associated with gaining approval for new methodologies or protocols that are needed to generate voluntary carbon credits. Solving these problems could create or enhance competitive advantages in Wyoming, potentially leading to opportunities for job and economic growth.

#	Potential Solution	Benefits	Risks and Other Considerations	Recommendation
1	Develop technical assistance and/or grants to help Wyoming carbon-to-value businesses and producers access voluntary carbon markets confidently	<ul style="list-style-type: none"> - Helps Wyoming businesses access the most relevant and profitable current marketplaces. - Informs Wyoming businesses of existing methodologies that could be easily adopted to increase cash flow. - Could attract new CTV companies to Wyoming. - Helps commercialize Wyoming-developed technology. - Could lead to job and wealth creation in Wyoming through creation, growth, or relocation of Wyoming businesses. - May encourage continued use of Wyoming's fossil resources. 	<ul style="list-style-type: none"> - Deal flow of Wyoming CTV companies who would use the program may be inconsistent through time, although we have seen a recent increase, and expect the trend to continue. This might also be mitigated by ensuring broad promotion of the program. - This program may not be enough of an incentive to attract out-of-state CTV businesses. - Private-sector-established frameworks may not benefit technology-based (rather than terrestrial) credits in the short term. - This program would put some onus on the State to help companies identify which methodologies, exchanges, etc. are credible. Statutory guidelines may help create bounds around what the state can and cannot help with. 	Start developing a program now. Test and refine.
2	Develop a methodology for geologic sequestration in saline reservoirs and seek approval from registries that are broadly accepted by CO ₂ credit buyers	<ul style="list-style-type: none"> - Such a methodology does not exist, and because such a document is a gatekeeper to participating in the voluntary carbon market, its absence effectively blocks such projects from generating voluntary carbon credits. Wyoming could take the lead in eliminating this roadblock for a technology that is critical for us. - Introduces to the market higher-value carbon credits based on permanent sequestration projects under development in Wyoming. - Ensures Wyoming businesses/projects access to most relevant markets. - Helps Wyoming and Wyoming companies leverage natural competitive advantages in this space. - Could attract new CTV companies to Wyoming. - Helps commercialize Wyoming-developed technology. - Could to job and wealth creation in Wyoming. - May encourage continued use of Wyoming's fossil resources. - Could make carbon capture and sequestration more economically feasible. When paired with power production, it would continue to promote grid reliability. 	<ul style="list-style-type: none"> - Methodology typically would be developed by a third-party with public input -- i.e., creation in the first instance and outcome could not be guaranteed. - Creating a methodology generally takes time (e.g., up to a year) and costs money; we could mitigate these concerns somewhat by making use of in-State expertise, but it is likely that a third-party consultant may still need to be retained. - Implementation of the methodology could still prove to be costly and complicated. - Even if successfully created, sequestration-based credits would have to be accepted by other participants in the carbon market. There would be opportunity costs associated with making the carbon market aware of the existence of the methodology. - Other entities could create competing methodologies over which Wyoming would have little if any input. - Absent more research with likely input from third-party consultant(s), it is difficult to estimate in advance the value of such credits. We would expect them to hold greater value than other approaches given the permanent nature of geologic sequestration; that outcome is not guaranteed, however. - Geologic sequestration (and other technology-based solutions) have much higher costs than terrestrial options. Within current structures, voluntary markets may not establish high enough equilibrium prices to overcome these costs. - Methodologies take a long time (1+ years) to create and require a peer review and public input process, so the final product may not be what was originally envisioned. 	Start developing a methodology now. Test and refine.
3	Develop a new Wyoming CO₂ regulatory market framework	<ul style="list-style-type: none"> - Could establish a leadership role in CO₂ markets for Wyoming. - Wide-reaching promotion may help to attract CTV companies to Wyoming - Ability to set up the market to ensure benefits of Wyoming-advantaged technologies are correctly and fairly valued. - Helps commercialize Wyoming-developed technology. - May lead to job and wealth creation in Wyoming through creation, growth, or relocation of Wyoming businesses. - May encourage continued use of Wyoming's fossil resources. 	<ul style="list-style-type: none"> - Developing private sector initiatives that aim to accomplish similar outcomes, including Project Carbon and the governance body proposed by the Task Force for Scaling Voluntary Carbon Markets, may gain first mover advantage. This would make it difficult to gain market traction. - If we were to gain traction, this may further fragment the market, adding barriers for new entrants instead of making entrance easier. - If other states copy Wyoming policy, benefits could be limited to a short time. - Costs to launch, promote and maintain this could be high. 	Develop draft legislation. Continue to watch private sector developments and adjust accordingly to maximize market traction and return on state investment.
4	Codify private-sector market frameworks in statute. This may include acknowledgement that carbon credits are allowed, designation of an asset class for CO ₂ credits, or codification of prevalent private sector legal frameworks.	<ul style="list-style-type: none"> - May establish Wyoming as a leader in CO₂ markets. - May provide legal protections for buyers, sellers, and transactors of CO₂ credits, encouraging greater adoption of voluntary carbon credits, demand for captured and sequestered CO₂, and outlook for Wyoming CTV companies. - May attract carbon-to-value companies, sellers, buyers and transactors of CO₂ credits to Wyoming. - May place a premium on Wyoming-produced CO₂ credits. 	<ul style="list-style-type: none"> - There are not many barriers to other states/jurisdictions copying this. If other states do copy Wyoming policy, benefits could be limited to a short time. - Geologic sequestration and other technology-based solutions have much higher costs than terrestrial options. Private sector market frameworks may not facilitate high enough equilibrium prices to overcome these costs. - If carbon is made into a commodity, sales tax would apply. (This may be offset by tax credits as desired.) 	Continue to explore value propositions and develop details with stakeholders.