

HOUSE FINANCE COMMITTEE
March 4, 2022
9:02 a.m.

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CALL TO ORDER

Co-Chair Merrick called the House Finance Committee meeting to order at 9:02 a.m.

MEMBERS PRESENT

Representative Neal Foster, Co-Chair
Representative Kelly Merrick, Co-Chair
Representative Dan Ortiz, Vice-Chair
Representative DeLena Johnson
Representative Andy Josephson
Representative Bart LeBon
Representative Steve Thompson
Representative Adam Wool

MEMBERS ABSENT

Representative Ben Carpenter
Representative Bryce Edgmon
Representative Sara Rasmussen

ALSO PRESENT

Mike Cline, Strategy Advisor and Legal Counsel, Gaffney Cline; Nick Fulford, Gas/LNG and Carbon Management Senior Director Americas, Gaffney Cline.

SUMMARY

PRESENTATION: ALASKA'S OIL and GAS COMPETITIVENESS BY GAFFNEY CLINE

Co-Chair Merrick reviewed the meeting agenda.

^PRESENTATION: ALASKA'S OIL and GAS COMPETITIVENESS BY GAFFNEY CLINE

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NICK FULFORD, GAS/LNG AND CARBON MANAGEMENT SENIOR DIRECTOR AMERICAS, GAFFNEY CLINE, introduced himself. His responsibilities with Gaffney Cline included gas and energy transition.

MIKE CLINE, STRATEGY ADVISOR AND LEGAL COUNSEL, GAFFNEY CLINE, introduced a PowerPoint presentation titled "State of Alaska: Alaska's Competitive Position," dated February 2022 (copy on file). He provided an overview of the presentation on slide 2. The presentation would address global oil and gas supply and demand and energy transition implications. The second part of the presentation would look at Alaska oil and gas competitive strengths and weaknesses and major trends. The presentation would also address Alaska's competitive position including costs and fiscal comparison and key issues going forward. He reviewed volatility, disruption, and supply in the oil and gas industry on slide 3. He stated that while it seemed the oil and gas industry had always been volatile, the last 10 to 15 years had been exceptionally volatile. He elaborated that the oil price collapse of 2014 through 2016 was a result of a build up of supply from Oil Producing and Exporting Countries (OPEC) and the Lower 48 with unconventional oil methods. He noted that supply driven downturns tended to be long-term and persistent.

Mr. Cline continued to review slide 3. He relayed that in 2020 a number of factors came together. He detailed that OPEC Plus members were squabbling amongst themselves and had decided to have a "little war." The result combined with the onset of the COVID pandemic was disastrous for the industry. He elaborated that the situation led to deep cost cutting, project cancellations, and layoffs, which led to long-term implications for the industry. He highlighted that it had not been a regular supply and demand situation. He expounded that energy transition/renewables were beginning to gather pace and had a significant impact on the forward perceptions of where the industry would be over the next generation.

Mr. Cline highlighted there had recently been extraordinary price increases for oil and gas. He noted gas prices had risen especially in Europe and Asia. He detailed that much of the increase was due to pent up demand and coming out of the pandemic. Additionally, there were geopolitical concerns in Eastern Europe with the Ukraine and in the Middle East. He stated there was a lot of "overhang" on the

way people were looking at oil and gas markets and current volatility.

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Mr. Cline continued to speak to slide 3. He stated there had been increased pressure on resource owners because of the impact on production and revenues. He highlighted that oil and gas companies had generally performed poorly and investors had demanded better financial performance. Additionally, investors were pushing for increased sensitivity to environmental concerns. He planned to address the elements in more detail.

Mr. Cline moved to slide 4 and stated that the volatility and 2014/2015 had been a supply driven issue that tended to carry on; however, the issues had all been seen before. He believed it was important to think about what had changed because it would have a profound effect for everyone in the industry including Alaska and companies working in Alaska. He pointed out that increasing energy demand had not changed and would continue indefinitely. He relayed there were different things that may drive more rapid increases in demand. He explained that how the demand was met had changed. He detailed that historically coal, oil, and gas had been dominate and would continue to be important into the future. He elaborated that energy transition and accompanying technological developments, along with global acceptance of the transition, was a significant change and would drive changes in the energy mix going forward. He remarked there were numerous opinions on how quickly the change was occurring.

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Mr. Cline continued to speak about energy transition on slide 5. He remarked there was a substantial amount of fast development taking place. He relayed there was global movement toward accepting the importance of decarbonization and that measures needed to be taken to achieve it. He highlighted that 140 nations had committed to extraordinary reductions in GHG [greenhouse gas] emissions at the COP26 United Nations Climate Change Conference the previous year. He stated that the U.S. targets for net zero GHG emissions by 2050 were also extraordinary. Additionally, there were methane reduction targets agreed to by many countries as well. He stated the commitments were at a very high level

and he considered whether there would be action to follow through. He remarked there was quite a bit of buy-in, but it was falling well short of the high level goals that had been set. He reported that if the high level goals were to be met it would require much more significant action and commitment. He expounded there were many drivers that result in obtaining the goal or coming close to obtaining the goal. He stated there was substantial money going into different initiatives for energy transition. He highlighted the infrastructure deal in the U.S. as an example that included funding for electrical vehicle chargers, carbon capture and underground storage (CCUS), and massive support for the development of the power grid.

Mr. Cline addressed how energy transition would impact Alaska. He stated there would be an impact. He pointed out that Alaska was a fairly high cost producer, and its carbon intensity was relatively high. He remarked that ideally the state would take some action to position itself for changes in the future as people increasingly looked at hydrocarbons and a price or premium was placed on low carbon sources of energy. Once that happened, there would be an impact on all producers. The question was how Alaska positioned itself to be in as good a position as possible.

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Representative Wool referenced Mr. Cline's statements that Alaska was a high cost producer with a high carbon footprint. He believed BP released data and legislators heard that Alaska was one of the more profitable areas. He asked how it reconciled with Mr. Cline's statement that Alaska was expensive. He highlighted that when comparing all of the company's profits around the world, Alaska was more profitable.

Mr. Cline replied that the costs of production were relatively high in Alaska. The presentation would go into more depth on the subject. He noted that just because the cost was relatively higher did not mean Alaska was an unattractive place to do business. He remarked that in the global context Alaska was competing with the Lower 48 and the rest of the world.

Representative Wool understood high production cost. He reasoned a location was attractive if it was profitable, even if the production cost was high. He referenced

statements about energy transition and electric vehicles. He asked how the trend would impact the next 20 years. He highlighted that Ford was splitting into two companies and one would focus on electric vehicles. He referenced Toyota and other companies that had plans to produce a certain percentage of electric vehicles over time. He mentioned new renewable power plants. He asked how it would impact the oil and hydrocarbon market in terms of consumption. He asked if demand for oil would continue to increase.

Mr. Cline responded that people were seeing decelerating demand for oil, gas, and coal over time. He clarified that decelerating did not mean eliminating. He stated the fact there would be a big move into electric vehicles was important but how the electricity going through the grid was generated and supported electric vehicles was the most important. He expected that fossil fuels would continue to comprise more of the energy mix if renewables were not ramped up due to cost or technical reasons (including infrastructure, storage, and other items necessary to make the system work). How the situation played out would have an impact on demand and prices. He noted there was significant uncertainty surrounding the issue because no one knew how quickly technological adaptation would occur. He highlighted the high dollar cost of upgrading the power grid; however, it did not mean it could not be done.

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Representative Wool remarked the move was also a decentralization of the power grid. He knew many people charged their electric vehicles who charged them with the rooves of their houses. He thought it would become more common for the power system of a person's car and house to become integrated and the need to burn fossil fuel to charge a car would go down considerably.

Mr. Cline advanced to slide 6 and discussed competition for investment dollars and capital markets. In addition to impacting resource owners like Alaska, the situation was having a significant impact on oil and gas companies of all sizes. The performance of oil and gas companies relative to other asset classes in the stock market had been relatively poor in recent years. He noted it was pretty good currently, but over time performance had been relatively poor. He stated that investors and fund managers had begun to take a vigorous view of what they expect in terms of

financial performance. He elaborated that companies were having to take numerous things into consideration when they decide where to invest and what projects to do. He highlighted there was greater selectivity related to new projects and where to invest. He elaborated people were getting out of or backing off from some areas. Additionally, a lot of money that would have historically gone into oil and gas investments was being returned to shareholders in buybacks and dividends.

Mr. Cline stated there had been divestments as well. He understood Alaska had seen a shifting from "the BPs to the Hilcorps" and the growing importance of companies like ConocoPhillips that had taken "the bit between the teeth" to make the situation work, whereas perhaps some of the bigger companies were questioning whether to invest further. All of the changes had made it more challenging for companies to get the support for doing business in different areas around the world. He explained the situation had impacted smaller companies because financing was difficult to secure. He detailed that when small companies joined consortiums with larger companies and then struggled to obtain financing, all of the companies involved were impacted. He stated there was a fundamental change occurring with oil and gas companies that he believed needed to be taken into consideration in the competitive assessment.

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Vice-Chair Ortiz referenced the second bullet point on slide 6 specifying that "Super-Majors" had initiated extensive divestment initiatives and focused more heavily on core regions or projects. He wondered whether the word "core" related to a geographic region or something else. He asked for an example of a company to help illustrate the statement.

Mr. Cline cited BP as an example of a company that had been divesting worldwide. He explained that BP had exited Alaska and many other areas and was focusing on the most lucrative locations. The company was also focusing on reworking its business model to be more aligned with energy transition issues. He cited ExxonMobil as another example of a company trying to divest in a number of places around the world. The company was really focused on the Permian, Guyana, and Brazil where it could find the most profitable, largescale

developments that would support the company going forward for many years. He elaborated that even if an asset was good, the company considered whether it would significantly "move the needle long-term." In some cases, big companies that had made commitments to reduce their carbon intensity were selling them to companies that were less sensitive on the issue (meaning the smaller companies' carbon intensity looked better, but in actuality no change had occurred). He cited Chevron as another example. He stressed the situation was a serious shift.

Vice-Chair Ortiz thought it seemed like a natural tendency for companies to focus on key and profitable areas where longstanding projects would provide longstanding returns. He asked what was different in the scenario described by Mr. Cline.

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Mr. Cline responded that assets had always been ranked in a portfolio and companies wanted to get great returns. He explained that historically there had been "growth for growth's sake." He elaborated that under the mindset, companies were not as strict about the rate of return; the goal was to grow reserves because investors wanted to see the reserves replacement ratio. He explained that investors currently cared a lot about the financial performance and less about the reserves replacement ratio, which had caused a shift. He considered perhaps companies should have always been doing what Vice-Chair Ortiz described; however, that was not the case.

Representative LeBon looked at the term "core regions" on slide 6 and asked if Alaska's economic, political, and environmental profile of safely delivering oil, gas, and coal to market, made Alaska an attractive place to invest. He asked if there would be increased activity in Alaska as a result of Alaska doing the right things. He remarked that the state would not be off fossil fuels in the immediate future; however, he believed Alaska did the right thing. He asked if it should give hope that the state's future in the industry was bright.

Mr. Cline believed Alaska was an attractive oil province. He believed people placed added value on the predictability that everything was done well. He relayed that Europe and Asia Pacific had relied on sources of supply were there

were geopolitical issues (i.e., Russia). He considered that it perhaps made Alaska more attractive. He believed Alaska was attractive regardless due to its resources and good companies and service sector. He expected that Alaska was also focused on stewardship of the environment and communities, which was very positive.

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Representative LeBon stated the committee had recently heard from the Alaska Permanent Fund Corporation (APFC) that the current banking community retreat was not a total retreat. He asked if the banking community was in total retreat or keeping a low profile and still willing to invest in Alaska.

Mr. Cline answered there was a definite retreat among some sources of finance that would no longer invest; however, there were many that would still provide funding. He noted the institutions willing to provide funding would have standards for companies to meet. He stated the other issue was whether there was an entity that would lend (e.g., private equity) when another company would not. He deferred to his colleague for additional detail.

NICK FULFORD, GAS/LNG AND CARBON MANAGEMENT SENIOR DIRECTOR AMERICAS, GAFFNEY CLINE, added that it was useful to think about the world of finance in the same way as oil and gas in terms of supply and demand. He stated that the cost of financing for oil and gas was beginning to rise because of the beginnings of the scarcity of capital. As a result, it was becoming a more attractive place to invest. He characterized the situation as a "double-edged sword." He highlighted in the Lower 48 there was a willingness of some of the risk averse lenders to look at more adventurous ways of funding. He relayed there were the beginnings of a financially robust platform for banks to lend to for low carbon forms of energy including CCUS; however, it had a very long way to go. He believed there would be a rebalancing as the reality of the expected level of return from low carbon forms of energy started to hit home. He believed the key for any oil and gas project was the necessity of an emissions ready plan to show to lenders. He continued that even if the emissions side of a project could not be immediately addressed, as long as a producer could demonstrate there was a path to do so, it would allay most of a lender's concerns.

Representative Josephson referenced the presentation's use of the term divestment. He referenced slide 5 and the mention of resistance to support unabated fossil fuel energy. He remarked that Alaska writ large had been upset about Goldman Sachs' position on investment on the North Slope. He asked if it was accurate that Goldman Sachs was not necessarily acting out of environmental altruism. He elaborated that the firm was looking 50 years out and seeing wealth creation pivoting away from fossil fuels.

Mr. Cline replied that the firm's motivations were their own. He believed from the business perspective, Goldman Sachs and many others see that things were changing. Investors were seeing in the next 30 years there would be a significantly changed energy system and if a firm wanted to be part of the business change, it was necessary to start immediately. He stated there were many uncertainties about how things would develop and who would be winners and losers. He stated that companies like Goldman Sachs would be placing bets all over the board and wanted to be a big success in the future. He noted that many companies fell under this category. He added that no one was entirely altruistic. He considered perhaps it was serendipity that business motives and the bigger picture came together.

[9:35:22 AM](#)

Mr. Cline advanced to slide 7 and discussed the response to changes in market conditions. He stated there were things that resource owners could do to encourage or ensure continued investment in exploration and drilling. He remarked that sometimes the things made a big difference and other times they did not. He highlighted that when things had gotten bad in 2020, Norway had taken actions to de-risk exploration and had approved the reimbursement of exploration costs "at the end of that period." He elaborated that Norway had recognized that if companies stopped exploring it would negatively impact project development in the future. The United Kingdom (UK) had also done things to encourage companies from halting activities. He expounded that in many cases, individual production sharing contracts had been adjusted when times became difficult.

Representative Wool looked at slide 7 and observed governments appeared to be reassessing their tax structures

to try to attract business. He asked if it was a trend where governments were competing more rigorously for the oil industry.

Mr. Cline answered that he believed some would. He used Norway as an example. He noted that Norway had very high government take through taxes; however, it was also careful to ensure its tax system and regulations were attractive for companies. He elaborated that Norway was willing to make "on the fly" adjustments to address particular issues. He remarked that other countries were struggling with the question. He detailed there was a debate in the UK where some did not want any more drilling and others did. He did not believe there was one answer to the question and different countries would likely come up with a different solution. He believed Alaska was thinking hard about the issue.

Representative Wool asked if the Norway sovereign wealth fund invested in oil and gas. Alternatively, he asked if Norway had decided not to invest in oil and gas.

Mr. Cline answered, "I think they have done that." He described that Norway had a "split" perspective on things. The country was very environmentally conscious with many electrical vehicles, while simultaneously, it recognized the necessity of protecting its oil and gas industry because it produced the national wealth and had made Norway a prosperous country.

[9:40:09 AM](#)

Mr. Cline turned to slide 9 to discuss the Alaska oil outlook and its competitive strengths and weaknesses. He highlighted the state had wonderful resource potential and exploration had been pretty good over the past 10 to 15 years. There were numerous significant discovered resources that could be developed and high potential exploration that could be pursued. Additionally, there were good operators and investors willing to invest in Alaska combined with a robust service sector. He characterized it as a fundamental key strength that most countries would be very happy to have.

Mr. Cline addressed the weaknesses in Alaska's oil outlook. He stated that Alaska was not an easy operating environment. He detailed there was a short window for

development activities, much of the locations were remote to infrastructure, and there were costs of getting production to market. He explained that many elements made it more challenging and higher cost. He highlighted there were some regulatory environmental issues that had made it difficult to take the last step to get approval for development. He cited the Willow project as an example. He stated that those types of issues were prominent for Alaska. He thought there was a perception among some people that there was a lot of potential for change in the form of additional taxation and that fiscal stability was an issue. He thought the concern was an issue for many companies. The bottom line was determining how to convert successful discoveries into successful developments. He noted it had been difficult in recent years.

Mr. Cline stated when looking at additional things that people would be concerned about in the Alaska context, there were some global issues including volatility. He detailed that Alaska's developments were conventional and tended to involve a great deal of upfront investment and required 20 years or more to achieve their economic potential. He explained that investors deciding whether to pursue an investment would look at the 20-year picture. He pointed out that volatility impacted the projection. He did not believe it would discourage investors if other conditions were desirable; however, it was a concern. Another concern was decelerating demand and energy transition. He remarked that all major producers were competing with other producers, as such, Alaska was competing with the Middle East and the Lower 48 on cost of production and profitability and whether something was a low carbon source of energy. The items were all major issues. He remarked that if price recovery was sustained at a bit of a higher level, it may create some new opportunities. He stated that people may begin to adjust their planning assumptions for projects and may be willing to do a bit more.

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Representative LeBon looked at the graph on slide 9 and noted the two red dots representing threats under the Alaska column. He understood the reason for the red dot under the "operating cost and permitting environment." He asked why Alaska was the only location shown with a red dot under "access to capital."

Mr. Cline answered that the chart was very subjective. He relayed that Gaffney Cline had heard, especially from smaller companies, that finding project financing in Alaska was very difficult. He noted that the issue was not as big for large companies.

Representative LeBon remarked that Alaska was not rewarded for trying to do the right thing environmentally and being balanced in its approach between development. He asked if the state had been damaged by ballot initiatives trying to change the state's tax structures. He wondered if it had contributed to the state receiving a red dot [on the chart on slide 9].

Mr. Cline replied, "Maybe." He elaborated that fiscal stability was not the only issue, but it was an important one. He stated to the extent that companies and finance sources considered the issue and were concerned going forward, it would influence their opinion.

Representative LeBon surmised that the debate in the past several years over what the state should tax the industry had not helped Alaska.

Mr. Cline replied that the issue was prominent, and companies were wondering which way it would go.

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Representative Wool referenced Mr. Cline's mention of volatility. He asked if times were currently more volatile historically speaking. He asked if volatility was more of a threat when other things were also unpredictable.

Mr. Cline confirmed there was always volatility. He stated it was possible to see the trend when looking at volatility over a long time horizon, otherwise it was difficult. He thought the cycles of volatility were beginning to get closer together. He stated that everything "fell off a cliff" after 2014/2015. There had been a slow recovery followed by another downturn. He noted there had not been much space between the two events. He thought it was interesting to consider whether volatility would be impacted by other considerations like energy transition that had not been present in the past. He stated his perspective was a bit more "fragile" about the oil and gas

industry because there was a new uncertainty for the industry's prospects.

Representative Johnson referenced news received earlier in the day that AIG was pulling back from financing in the Arctic. She wondered whether marketing or facts were driving the decisions. She did not necessarily believe development was responsible for the rising temperature in the Arctic; however, it was being used as a lobbying tactic. She remarked that the state had not followed through on paying tax credits back [to companies]. She stated that the German company ING had a significant investment and the situation had made it quite difficult for the company. She wondered how much the tax credit and lawsuit had impacted financing in Alaska as opposed to the impact of environmental concerns.

Mr. Cline answered that he did not know, but he imagined some people would see it an indication of less stability. He was aware of the issue, but he did not know how it had impacted thinking.

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Mr. Cline advanced to slide 10 and addressed Alaska and the Lower 48 developments. He noted that in some ways, Gaffney Cline found the Lower 48 to be Alaska's biggest competitor. He stated there were many similarities in the legal and fiscal system, which attracted the same companies. He elaborated that companies investing in Alaska often had portfolios including investments in the Lower 48 as well. The companies made comparisons between the locations when trying to decide where they would like to put more rather than less emphasis. He reported that conventionals and unconventionalals were a real source of competition. He characterized unconventionalals as a unique source of competition because their development was quite different. He detailed that unconventionalals included factory drilling where \$10 million wells could be started and shut down quickly. He explained it was much different than a conventional development where a company invested \$8 billion, and the money was paid back over a long time horizon. He reiterated that Gaffney Cline saw the Lower 48 as a real competitor for Alaska.

Representative Johnson asked how much a reinvigoration of the Permian Basin factored in. She remarked that it was not

quite the same as the way oil could be produced in North Dakota. She thought it appeared to be drawing numerous companies out of Alaska because of its substantial infrastructure.

Mr. Fulford responded that the Permian revolution was largely technologically driven with the economics of the field being transformed. He believed it had turned out to be a much more substantial "gift" to the oil industry than was previously seen. He added that along with the oil came gas as well, which provided an economic lift. There was no doubt that from an oil industry perspective, the Permian was where it had been happening for the last three to five years, which had attracted significant investment that could otherwise have been looking at Alaska.

Mr. Cline added that with high prices some less economic conventionals were back in play. He stated it would result in new production coming on the market quickly.

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Mr. Cline turned to slide 11 and discussed oil development, production, and state revenues. He stated the historical trend was large basins in Prudhoe Bay and Kuparuk; however, the basins were mature and declining, and much effort was being put into keeping the fields as productive as possible. He spoke to the importance for Alaska to build on its exploration successes and get some new developments in place to begin softening the decline or reversing the trend. He noted there were challenges that would make the work a little more difficult.

Representative Wool referenced the graph on slide 10 [showing US crude oil production] where Alaska was shown at a steady decline since 2020. He noted there had been a similar slope 20 years earlier. He noted that the Permian Basin had come in and rapidly increased. He asked if the type of resource extraction in the Permian Basin was more of a temporary method that went up quickly and fell quickly as well. He referenced other development potentials in Alaska such as the Natural Petroleum Reserve-Alaska (NPRA) that would make the Alaska curve go up if they came to fruition. He asked if projects in the Permian Basin and New Mexico were shorter-term.

Mr. Cline responded the nature of development [in the Permian Basin and New Mexico] was different. He elaborated the wells could be drilled at a lower cost more quickly. He noted the wells may not have the same life span as a conventional well, but companies kept drilling them. The wells could be turned on and off and companies could hold drilled and completed wells in addition to drilled and uncompleted wells in their inventory for use when prices increased.

Representative Wool asked if the entire reservoir had the long-term potential. He had heard in the past that when oil prices were high, all of the faucets would be on and supply would increase, which in turn caused the price to drop. He observed that the system was self-regulating. He speculated that with oil prices at \$100 per barrel, there would be more oil production, which would help supply. He asked if the Permian Basin reservoir was as robust as the North Slope. He asked if there was reservoir potential in the Permian Basin to keep it going.

Mr. Cline answered that the investments made in the Permian Basin by all of the large companies suggested they believed it to be the case.

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Mr. Fulford discussed natural gas price volatility from 2020 to 2022 on slide 13. He shared that around 2014/2015 he had been looking at ways to monetize Alaska gas and he was happy to be back. He stated it was a world-class project that warranted considerable attention. He highlighted that natural gas had been propelled to the forefront of global geopolitics in the past several days and was the source of considerable political unease, especially in Europe. As a result, it was a concern worldwide. He reported that currently the European gas index stood at about \$60 MMBtu, which translated to an oil price of about \$400 per barrel. He stated it was clearly having a knock-on effect on people's electricity and gas bills. He believed the topic would likely be propelled into the headlines for the foreseeable future. He believed it would cause a hard look at security of supply and the way

Europe in particular sourced its gas. Currently more than half of US exports from the Gulf Coast were going to Europe. As a result, Asia buyers had to look elsewhere, which was part of the price challenge. He explained that as buyers looked elsewhere, they were focused on the Pacific Basin, which would be the market for Alaskan gas.

Mr. Fulford relayed that the \$60 MMBtu price of gas in Europe compared to a Henry Hub price of about \$5.00, which was a little higher than usual. He reported that every ship arriving in Europe from the U.S. priced at the gas index represented a profit margin of about \$200 million. He noted about two vessels arrived per day. He noted that current conditions could not be expected to continue, and the industry generally did not cope well with volatility. There was an expectation that things would settle back down over the next months and years. Nevertheless, he believed the shock to the system would cause a reappraisal of global gas sources and was likely to push Alaska back up the list in terms of reliable sources of secure supply.

[10:03:41 AM](#)

Mr. Fulford continued to address natural gas price volatility on slide 13. He relayed that the beginning signs of trouble in the LNG [liquid natural gas] industry began in 2018 through 2019 when supply, particularly from the US, had overtaken demand. He stated there had been an inexorable price reduction in 2018/2019. He remarked that when COVID-19 hit, it had been a different effect to that of oil. Nonetheless, the additional drop in demand had pushed LNG down to historically low levels where each of the vessels leaving the U.S. represented a cash loss of about \$8 million. He elaborated there had been a certain amount of cutback and cargo cancelation to avoid the losses. He stated the industry had been trying to find its feet ever since. He relayed that even before the tensions in Europe, there were already signs of a very tight market, particularly with China ramping up in demand.

Mr. Fulford stated that one of the features of the LNG industry was the extraordinary long-term investment it represented and the huge amounts of capital. He pointed to the graph on slide 13 and reported that it was not what stakeholders (i.e., resource holders, liquefaction companies, and customers) wanted to see. He believed the

implications of the volatility experienced over the past couple of years would be significant.

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Mr. Fulford turned to slide 14 and stated he believed there would be a significant reexamination of global supply and demand. In particular, there would be a significant emphasis on reliability and dependability, something Alaska could offer "in spades."

Mr. Fulford stated that the energy transition would be a very material feature for any future gas project in Alaska. He remarked it would have to be accommodated in various ways. He relayed that the next wave of the U.S. Gulf Coast projects was working hard to reduce their carbon intensity with things like electric drives to bring down emissions from turbines and carbon capture in storage from the acid gas removal. He explained that some of the situation was driven by financial reasons, but most was driven by customer requirements. He highlighted that about two years back the French government had vetoed a contract between a French customer and one of the U.S. producers on the basis of its carbon intensity. He believed it sent a very strong message through the community, which would have to be echoed in any future project in Alaska.

Mr. Fulford specified that finance was the other feature. He relayed that for any major hydrocarbon project (oil or gas), the stakeholder requirements of lenders and the investment committee concerns over long-term capital markets were driving industry toward zero carbon projects or projects with a lower carbon intensity. He reported that all indications were that there would be space for new LNG in the marketplace from about 2028. He informed the committee that all signs from China indicated it was ramping up LNG requirements significantly. He noted it included the expansion in Qatar.

10:08:37 AM

Representative Johnson thought that about five years back LNG had been considered to be cleaner and was in the category of renewable type clean energy, especially in some of the East Coast states relying heavily on coal. She stated that as time had progressed it seemed the sentiment in the U.S. had changed to the belief that it was too much

carbon. She did not know about the rest of the world. She asked if the impact on oil was also impacting LNG.

Mr. Fulford stated that he was "a gas man through and through." He relayed that about five years back, gas had been viewed as a clean burning, lower carbon fuel with a long future ahead. He had been surprised at the speed gas had been lumped in with coal and oil as being an unacceptable fossil fuel. On the optimistic side, there were zero carbon fuels (e.g., wind and solar) and conventional fossil fuels like oil and gas. There was considerable potential and an expectation that hydrocarbons would be a major part of lowering the carbon intensity of global supply. For example, gas could be processed into other fuels like hydrogen in particular. He explained that blue hydrogen represented a major opportunity for the gas industry. There were various trials underway to look at spiking natural gas lines with hydrogen.

Mr. Fulford continued to answer the question from Representative Johnson. He referenced the undertakings in COP26 and explained the enormity of the task ahead for most countries to reach their targets was quite extraordinary. He detailed it involved a substantial expansion into electrification of the global economy and the investment it would bring. In that sense, the idea that oil and gas would somehow be removed from the global energy equation was not realistic. He confirmed it would have to be lower carbon and more would be used for net zero fuels like blue hydrogen, but it would be a long transition. He considered the future for Alaska oil and gas and relayed that within a generation it would become the primary concern; however, there was time to adapt.

[10:12:22 AM](#)

Representative LeBon referenced the term "Alaska clean gas" that had been in the news. He asked what Alaska clean gas meant to the market and whether it gave Alaska an advantage going forward.

Mr. Fulford replied that he was unfamiliar with the term. He imagined it would involve a lower carbon or lower emissions product. He highlighted examples from other locations. He referenced the delivery of net zero LNG carbons where sellers purchased nature-based offsets to neutralize the carbon content of LNG cargo. The current

cost was about \$2.5 million per cargo (approximately \$0.70 MMBtu). He explained the carbon cost was likely lower than the market would ultimately expend on.

Vice-Chair Ortiz looked at slides 14 and 15 that referenced Alaska LNG and the project. He asked for verification the slides were referring to the LNG pipeline project.

Mr. Fulford answered that the Gaffney Cline overview was based on the current public domain perspectives on the project that involved a gas treatment plant on the North Slope, a gas pipeline to Cook Inlet, and an LNG facility.

[10:14:36 AM](#)

Vice-Chair Ortiz asked if things were changing in relationship to potential ways LNG energy could be harnessed in terms of things like fuel cell technology. He wondered whether there was potential for new technologies to allow Alaska to pursue other ways of harnessing the energy as opposed to the large investment in a pipeline.

Mr. Fulford responded there were many ways in which the large resource in Alaska could be reexamined and various ways to monetize the resource conventionally or in a lower carbon environment. He highlighted direct exports from the North Slope using the same technology as the Yamal project in Siberia as a concept under active consideration. He informed the committee that the area of technology that had moved on the most in the past five to ten years was floating LNG or small scale LNG. He reasoned that while it did not match the scale of the resource, it could be used as a way to start to access the resource.

Vice-Chair Ortiz asked if Mr. Fulford had used the term "floating LNG."

Mr. Fulford responded affirmatively. He explained that floating LNG involved putting a liquefaction plant on a vessel. Mozambique and Senegal both had projects using a large floating vessel holding a liquefaction plant. He detailed there was a ship-to-ship transfer onto an LNG carrier. He explained it was relatively expensive technology if done conventionally; however, one of the advantages was the ability to get gas to market relatively quickly while additional phases were carried out (i.e., land or platform based).

10:17:07 AM

Representative Wool asked about the bullet point on slide 14 "given the energy transition, this could be the last chance to monetise the substantial gas resources in a traditional manner." He asked if there was a nontraditional manner.

Mr. Fulford replied that he believed the environment in Alaska was suitable for blue hydrogen carbon capturing storage. He detailed there were a number of ways to reexamine the resource and consider exploitation in a completely different way by processing the gas before it left the North Slope and capturing the carbon. For example, blue ammonia was another potential form of energy exports that could be adopted. He reported that to some extent the ambient temperature in Alaska helped the processes in terms of efficiency. The technologies were examples of nontraditional ways to monetize the gas in Alaska.

Representative Wool asked for verification decarbonizing meant stripping the carbon off of methane and getting hydrogen to result in a carbon-free fuel. He surmised the carbon was then quarantined somewhere in the ground or something similar.

Mr. Fulford agreed. He elaborated there were a number of the projects using the [carbon stripping] method in the Gulf Coast area. He elaborated that all of the projects were leveraging the 45Q tax credit, which offered up to \$50/ton of CO₂ (which was geologically sequestered). He detailed that although the credit would only support relatively high efficiency carbon removal technologies, there were measures in Washington, D.C. to increase the credit to \$85/ton or more. He noted that it started to incorporate a range of other technologies. Separately, there were hydrogen credits available. He stated it was part of a federal policy to incentivize the production of zero carbon fuels to the point where the value of carbon globally was sufficient to support conventional investment. He noted how long it would take was difficult to know.

Representative Wool referenced hearing about policies coming into play that called for a percentage of renewable production. He thought the governor had a proposal for 80 percent by 2040. He considered that if Alaska had a low

cost energy source it would attract business and lower utility costs for Alaskans. He reasoned if there was also a policy calling for 80 percent renewables, it would discourage the development of domestic gas for Alaska, which may or may not impact export projects. He believed many people who wanted a pipeline in Alaska wanted it to reduce high heating costs in state. He asked if it had been factored into the decision profile.

[10:21:32 AM](#)

Mr. Fulford answered that he had become aware of some of the challenges with winter heating bills and fuel (particularly in the northern part of the state) when he had been in Alaska often in 2014 and 2015. He stated that the gas resource represented relatively low hanging fruit in terms of an ability to rapidly reduce some of the costs. He relayed that incorporating gas into a regulated mix of generation would present challenges unless the mix included hydrogen fuel of some sort.

Representative Johnson shared she had seen some of the different types of experimental attempts to take carbon out of the air. She asked for an update on the technology. She knew there were many people working on the issue, the tax credits were being leveraged, the Infrastructure Investment and Jobs Act (IIJA) bill contained substantial related money, and Canada had made it a priority. She stated that what she had seen taking place was still a long way from being very usable other than capturing carbon at the source (versus out of the air).

Mr. Fulford referenced the \$50/ton credit being offered through 45Q, which went some way to facilitate the complex chemical procedure. He stated it was clear that a much higher carbon cost or benefit was required to drive the types of more complex technologies that would start to make a big difference. He referred to Representative Johnson's reference to direct air [carbon] capture, which was a very energy intensive way of removing CO2. Based on current technology, it would require a higher carbon price or credit than was currently available. He mentioned the low carbon fuel mechanism in California. For example, some of the carbon capture projects in Texas were based on exporting low carbon fuel to California and getting a credit. He stated that the method of building up a series

of credits to support the high cost of the technologies was starting to be looked at.

[10:25:12 AM](#)

Mr. Fulford turned to slide 15 and discussed the "high level guideline project economics compared to other global sources of LNG - breakeven analysis to China (central case)". He relayed the analysis was based largely on the work done years back that had been continued. He was aware the Alaska Gasline Development Corporation (AGDC) had been working to examine the cost of the project and had suggested that some of the costs [in the analysis] could be reduced substantially. One of the mechanisms under consideration was the use of a federal guarantee, which would reduce the risk associated with the project substantially. He communicated that the slide was a high level assessment and did not necessarily incorporate the most recent work.

Mr. Fulford relayed that in order to compete effectively, the primary competition for gas would be the Lower 48, particularly the next wave of LNG projects getting underway. He detailed that the projects in the Lower 48 benefitted from lower construction costs less infrastructure investment. He explained there was a structural disadvantage the Alaska project would have to address. He stated that the gas resource represented a potentially low source of gas and the shipping cost to Asia was far less. He concluded that for any monetization of Alaska LNG, cost reduction and efficiencies would have to be prioritized.

Representative LeBon asked if Gaffney Cline had contacted AGDC for input on the cost estimates when preparing the presentation.

Mr. Fulford replied in the negative. He detailed that Gaffney Cline would be happy to discuss the topic with AGDC and understand some of the latest developments. He communicated that Gaffney Cline had a copy of the Wood Mackenzie report, which included some substantial costs savings of about 30 percent from the revised financing arrangements and perceived lowering of risk. He had been more surprised by the reductions in capital cost of the plant and pipeline, particularly in light of the 250 percent increase in the cost of steel in the past two

years. He noted the rise in steel cost was proving a substantial constraint to a number of oil and gas developments worldwide. For example, the Trans Mountain Pipeline in Canada had increased from around \$9 billion to over \$20 billion during the course of construction. Much of the increase was due to the price of steel. He was happy to discuss any revised pricing available.

[10:29:20 AM](#)

Representative LeBon asked if Gaffney Cline had included input from the Wood Mackenzie Report in its analysis.

Mr. Fulford answered that that the "Wood Mac" report was largely based on assumptions provided by AGDC. He had no reason to disagree with the conclusions drawn by the report. He believed the focus "for that" would be in the assumptions.

Representative LeBon stated there was an expectation that liquefaction costs were higher in Alaska than in the U.S. gulf. He asked if there was a finite or definable source for the conclusion.

Mr. Fulford highlighted the nature of the environment and challenges involved in construction made LNG Canada a good reference point (several hundred miles south). Based on reports, the costs involved in liquefaction were 40 to 60 percent higher than some of the greenfield projects on the Gulf Coast.

Representative LeBon asked if the presenters generally agreed with the Wood Mac report conclusions on the Alaska LNG project.

Mr. Fulford responded that he would not disagree if the report concluded Alaska LNG would have a competitive delivered price into Asia (if the assumptions used were correct). He communicated that Gaffney Cline would agree with the expectations where market prices may stabilize.

[10:31:40 AM](#)

Mr. Cline added that Gaffney Cline would want to understand the assumptions better to fully be able to get behind them.

Representative LeBon thought the conclusion would be to do a deeper dive and have communication with those involved in the Alaska LNG project.

Representative Thompson observed that he had served on the House Finance Committee in 2015 and 2016 and the numbers appeared to be the same as they had been back then. He noted that in 2015 and 2016 the oil companies were going to build the pipeline, which drove the cost "sky high." He thought it required a deeper dive. He observed that the Gaffney Cline presentation showed supply would be a little over \$11 whereas the Wood Mackenzie report showed it could likely be done for \$6.50 to \$6.70. He wanted to see more information.

Mr. Fulford highlighted a feature of the Wood Mac and the analysis was the very material impact of the different financing arrangements being contemplated in the report. He explained that the cost of debt and overall project hurdle rates reflecting a perceived lower risk, likely accounted for two-thirds to three-quarters of the cost reduction. There were cost features involving the capital cost to liquefaction pipeline, but the key difference between the numbers in the Gaffney Cline analysis and those in the Wood Mac report revolved around finance.

[10:34:22 AM](#)

Mr. Fulford turned to slide 16 and discussed Alaska LNG. He summarized that everyone was well aware of the scale and quality of the gas resource in Alaska. He highlighted there had been a long history of attempts to monetize the gas in Alaska. The key constraint had been the cost compared to other competing sources. He stated there was no doubt the LNG industry had learned a substantial amount from its mistakes over the past several years. He highlighted that CapEx [capital expenditure] control and more efficient EPC [engineering, procurement, and construction] contracting were having an impact. He stated that the opportunity to enhance a project through various methods to reduce its carbon intensity was advantageous. He advised that the project would have to compete with the Lower 48 and it should be the prime focus for any competitive analysis.

[10:36:04 AM](#)

Mr. Cline moved to a section on Alaska's competitiveness factors. He stated that companies focused on a number of different issues when considering an investment. The first consideration was resource potential. There were also issues of cost, the hydrocarbon market conditions, and issues around fiscal stability. He recognized that resource potential [in Alaska] was good. However, costs were high. He reported that development costs in Alaska ranged between \$8 to \$15/barrel, which was relatively comparable to other high cost developments around the world. Operating costs were also comparable to other high cost developments at around \$7 to \$12/barrel. He highlighted that transport costs in Alaska were much higher, which was a key differentiating factor. He stated that cost would not necessarily discourage investors, but it was one of the factors that would be carefully considered.

[10:38:18 AM](#)

Mr. Cline looked at a fiscal comparison on slide 19. He remarked that it was not possible to change resource potential or cost, but the fiscal aspects were changeable. The slide included a chart that included the government take in number of jurisdictions around the world. He pointed to Norway at the right of the chart reflecting high government take and the UK on the left with relatively low government take. He categorized Alaska's government take as relatively high in comparison. He pointed out that not all government take was the same. He detailed that Alaska had a royalty that companies paid upfront. He noted in a general sense, companies would rather wait until they were profitable before delivering "the take." He identified it as one of the key distinctions between different jurisdictions.

Mr. Cline stated it was always useful in the discussion to have "a Norway" because the country had a particular method. He elaborated that Norway had a very high government take with a 78 percent marginal tax rate, but the take was all income based. He explained that its government take occurred once projects hit their payout and going forward. He believed the concept was something that made the system tolerable for companies. He stated that Alaska had property tax and royalty, which he believed were important factors.

Representative Josephson stated that one of the reforms that had been discussed was to the per barrel credit. He stated the industry made the case that it was part and parcel of the overall hybrid system including the gross tax and profit tax. He noted that the per barrel credit had an "odd" reverse progressive element. He stated there was criticism that the state was paying the credit where companies would be doing development and production regardless. He asked if it was a large disincentive to the industry that would result in changed development behavior if the \$8/barrel credit was reduced to \$5/barrel for all fields.

Mr. Cline responded that there were two ways of addressing the question. The first was to consider whether the specific standalone change would be tolerable or intolerable. He suspected the change would not be a "backbreaker" on its own. The second was to consider what impact any tax change had on perceptions of fiscal stability in Alaska. He explained the change [to the per barrel credit] on its own may be manageable; however, when combined with existing concerns that overall discouraged development activities, there may be a downside risk.

[10:43:02 AM](#)

Representative Wool observed that the transport costs reflected in the top portion of the bar graph on slide 19 appeared to all be equal. He noted that Mr. Cline had shown transport costs differently on the previous slide. He asked for an explanation regarding the difference.

Mr. Cline replied that in order to do a fiscal comparison, the costs had been normalized and set at an equal level, where the only difference [between the locations on slide 19] was the fiscal terms. The method had been used for purposes of analysis only. He agreed that in reality the costs would be different because the locations all faced different conditions. The differences had been backed out of the analysis to obtain an apples-to-apples fiscal comparison.

Representative LeBon referenced Representative Josephson's previous question about how a reduction in the per barrel credit from \$8 to \$5 would be perceived by industry. He stated his understanding of Mr. Cline's answer that it

would send a message about the tax environment in Alaska and would discourage investment.

Representative Johnson considered the system in Alaska that included government take and a royalty for Alaska as part of the take. She thought it seemed that any other location outside of Alaska would have a royalty share going to the lease owners. She had always had difficulty considering the royalty share as part of the government take. She asked for an explanation.

Mr. Cline replied that any form of take going to the government was a form of government take.

Representative Johnson clarified her question. She used Texas as an example and explained that a nongovernmental royalty owner received a royalty share for their property. She explained that in Alaska, the royalty share was added to the state's government take because it was the government and royalty share owner. She wondered why the royalty was included in the government take when it should be considered a royalty share no matter who the owner was because it was not part of the state's tax regime.

Mr. Cline answered that he was not sure how to answer the question. He would follow up.

Vice-Chair Ortiz stated his understanding of Representative Johnson's question. He explained that Gaffney Cline was considering royalties as part of Alaska's government take. He asked if royalties going to private owners in Texas were factored in when considering overall take. He asked if the royalties in Texas should be considered when comparing Alaska and Texas. If the royalties in Texas were not considered, he reasoned royalties should be taken out of the government take equation in Alaska when comparing the locations.

[10:46:56 AM](#)

Mr. Cline answered that due to the nature of private ownership there were many different ways companies had to pay. He relayed that Gaffney Cline considered it to be government take even if it was taken by a private owner. He explained that when making investment decisions a company had to consider royalty regardless of who was receiving the

payment (i.e., the state, federal government, or private owner).

Mr. Cline discussed Alaska competitiveness globally on slide 20. He reported that overall Gaffney Cline found Alaska to have a fairly competitive environment. He highlighted it was evidenced by some important operators increasing their exposure and making it clear how Alaska was part of their overall portfolio (e.g., ConocoPhillips and Hilcorp). He stated it was a positive trend indicating Alaska was a destination for oil and gas investment. Another positive was the relatively good exploration results that had occurred over the past 10 to 12 years. Nevertheless, it was important to understand it was a significant issue if it was difficult to mature discoveries into commercial developments. He elaborated that companies deciding whether to invest considered it took years to get to an investment decision and reach economic potential. He stated the risks were significant considerations.

Representative LeBon asked if Alaska's regulatory environment was positive, neutral, or improving.

Mr. Cline did not find the state's regulatory environment to be negative. He remarked that his answer was anecdotal as he had not done a study on the topic. However, on the federal side there were concerns there would always be challenges to getting a development done, including challenges associated with permitting and environmental impact statements. He highlighted the Willow project as an example. He made a comparison to other places in the world where it did not seem to be as difficult. He cited Norway as an example and explained the country had very high environmental and health and safety standards, but the system was relatively transparent, and it was possible to see when things would begin and end. He believed regulatory visibility was very important for companies. He was uncertain the regulatory visibility existed currently in Alaska.

Representative LeBon stated that additional regulatory overview on the Willow project was currently underway. He asked if the action not only would potentially delay Willow but make Alaska less attractive as well. He asked when compared to other global locations, whether Alaska was being rewarded for being a good steward of its lands and compliant with regulatory rules.

10:51:47 AM

Mr. Cline answered that there was not a problem with high standards [in Alaska]. He clarified the issue was whether a company could go through a process that was relatively transparent and predictable and get to the end within a reasonable timeframe. He believed everyone would agree being good stewards of the environment and communities needed to happen. He highlighted it was a real concern if a company did not know when it would happen and if there would be new issues arising. He was certain Alaska was committed to being a good steward of its environment and would do whatever it took. He imagined the lack of visibility on how things would work was frustrating for the government and companies [in Alaska].

10:52:57 AM

Mr. Cline moved to slide 22 and discussed Alaska development scenarios. He addressed the need for new developments to offset declining production. He discussed why it was important and how much it could contribute to investors and the state. He shared that Gaffney Cline had done an analysis that included two types of developments: 1) large, major material developments like Pikka and Willow that required new infrastructure hubs, 2) incremental developments that could leverage off of big developments to become profitable.

Mr. Cline looked at the large "Pikka scale development" on slide 23. He detailed that a project of this scale required some very large investments including a new infrastructure hub; however, the project would also generate significant revenues over its lifespan. The Gaffney Cline model showed the large scale project would generate [new state revenue of] \$6 billion to \$7 billion over 20 years. Additionally, other incremental developments could build around the project, which had been a pattern in the oil and gas industry in Alaska. He pointed out that the replacement of declining production would be good for key infrastructure like the Trans-Alaska Pipeline System (TAPS) to keep tariffs down and ensure throughput was above the operating threshold. He highlighted that large scale developments were not easy due to the very high cost. He pointed to a graph on slide 23 showing project cash flows going deep into the red and then curving back up. He explained that

companies had to put their money upfront and go deep into the project before any reward was reaped over time. Companies had to consider whether they would be able to realize the profile and what the associated risks were. He concluded that the "Willows" of the world were very important going forward.

Mr. Cline discussed incremental developments on slide 24. He highlighted the importance of incremental developments and explained they tied into the existing hub infrastructure. He elaborated that the projects could be brought into development relatively quickly because of the existing infrastructure and could make a big contribution on top of the large scale projects. He relayed that the analysis showed the development on slide 24 generating \$150 million or more per year and as much as \$1.5 billion in state revenue. The information demonstrated the importance of the new developments and the opportunity cost of not doing them.

[10:57:00 AM](#)

Mr. Cline provided concluding remarks on slide 25. He relayed that Gaffney Cline found Alaska to be an attractive oil and gas province. The analysis also found new developments were needed in order to maintain the momentum. He stated the "Willows and Pikkas of the world" would be very important. The large projects would also be costly and challenging. He communicated it would be very helpful if regulatory visibility and fiscal stability could be managed to the extent possible. He highlighted that global competition was fierce and would continue to increase.

Representative LeBon referenced the use of the term regulatory visibility. He asked if the phrase could be interpreted to mean regulatory stability. He asked how the terms differed.

Mr. Cline clarified that visibility was knowing what was required, what would happen, and when. He stated that the regulation may be very challenging. He remarked that an environmental impact statement may mean a detailed emissions analysis was needed. He explained that stability pertained to a situation where there was uncertainty about what would happen and there was change that may have been unexpected when the original decision had been made.

Representative LeBon remarked that some of his questions had attempted to help define the regulatory element as being reasonable, encouraging investment, and functioning on a timeline that produced successes. He asked if the presenters viewed the Alaska regulatory environment as positive for investment. He cited the process the Willow project was going through as an example.

[10:59:45 AM](#)

Mr. Cline answered that what the Willow project had gone through was not positive or helpful. He clarified that he did not disagree with whatever the appropriate requirements were; however, to start and stop and lose a year was difficult.

Representative Johnson noted there was a \$10 million appropriation in the budget for research on heavy oil primarily related to identifying the large Ugnu formation. She did not know what was taking place globally in terms of heavy oil research. She asked for comment on the heavy oil potential.

Mr. Cline answered there were a number of heavy oil projects including oil sands. He did not have a comprehensive knowledge of the issue, but the projects were high carbon and would be disfavored. He stated it would be an additional hurdle for any heavy oil project. He explained the projects were high carbon because of the nature of the fluid and due to the energy they used. He elaborated that many locations, likely including Alaska, would be focusing on thermal projects that used heat to make the oil flow. As such, the projects were huge consumers of energy, which made the projects relatively higher carbon. He stated the situation meant needing to do more to manage the carbon intensity, which would increase cost.

[11:01:50 AM](#)

Representative Johnson wondered if the product was higher value due to its composition.

Mr. Cline replied that he was not aware of anything.

Representative Wool asked Mr. Cline to elaborate on the carbon footprint of Alaska oil production. He asked where

Alaska ranked. He assumed the Permian Basin used less carbon to produce oil. He believed Alaska was one of the few oil locations using oil to energize the operations. He understood that many locations used natural gas instead. He noted that the natural gas in Alaska was pumped back into the ground, whereas other locations extracted natural gas to operate the system.

Mr. Cline replied that using natural gas in operations was normal. He reported that in old contracts years back, the gas could be used. He stated that gas was generally lower carbon than using diesel. He supposed more diesel was used in Alaska operations because gas was unavailable.

Mr. Fulford elaborated that the primary focus of many oil and gas companies in terms of getting a foot on the energy intensity ladder was to do a benchmarking appraisal to establish the low hanging fruit related to carbon intensity reduction. He elaborated that the typical process used a marginal abatement curve that looked at upstream and midstream operations and at what could be done. He stated that methane emissions were just as important as CO2. He explained that methane emissions were a good example of how it was possible to reduce the carbon intensity of an upstream operation and save money at the same time. He relayed it was the process many producers in Alaska were going through. He noted that the state was probably starting from a higher starting point, but that was not to say that a lot could be done at a relatively low cost.

[11:04:51 AM](#)

Representative Wool remarked that people made statements that Alaska operated safe and clean drilling operations more so than other locations. He believed the presenters were saying that the statement may be true, but Alaska was one of the higher carbon emission locations compared to the Lower 48 and perhaps other areas. He remarked on the goal to reduce greenhouse gases. He stated that if a lot of emissions resulted from the production of a product, which would also release greenhouse gases, it was not very desirable, especially when oil companies were under the microscope. He asked if Alaska's carbon footprint from the oil industry was significantly higher than in the Lower 48.

Mr. Cline replied that he was not certain about the comparison to the Lower 48. He recalled that the emissions

were relatively high in Alaska. He stated it would be one of the issues Alaska needed to address going forward as there was more of a price or premium being put on carbon. There were some things that were relatively straight forward, low cost, or profitable to address, which everyone in the industry was focused on. He expounded there would be subsequent phases where it would become more challenging.

[11:06:48 AM](#)

Representative Johnson asked what the presenters saw in their analysis that could increase production in Alaska. She highlighted regulatory issues as an example.

Mr. Cline replied that it was important to manage the perceptions of fiscal stability as much as possible. The key goal of any government was to have an appropriate level of government take and to find all of the important things that needed to be done. He noted the importance of giving whatever support the state could to enable projects like Willow to get over the goal line and to encourage new projects. He understood there was only so much the state could do because it was not all at the state level. He remarked that companies were doing a good job managing and optimizing existing legacy fields like Prudhoe Bay. He emphasized the need to avoid penalizing existing operations. He remarked that although the assets were declining, they were extremely important to overall production.

Co-Chair Merrick thanked the presenters for the presentation. She reviewed the schedule for the following meeting.

ADJOURNMENT

[11:09:06 AM](#)

The meeting was adjourned at 11:09 a.m.