

May 13, 2020

Les MacLaren
Assistant Deputy Minister
Ministry of Energy, Mines and Petroleum Resources

Diane McSherry
Vice President, Projects
BC Hydro

via email: BCHydroReview@gov.bc.ca

Dear Ms. McSherry and Mr. MacLaren:

Re: Feedback on Phase 2 BC Hydro Review Interim Report

On behalf of the Canadian Association of Petroleum Producers (CAPP) and our member companies, we thank you for the opportunity to provide feedback on the Phase 2 BC Hydro Review Interim Report.

Since the release of the interim report, our industry's situation in British Columbia and Canada has changed dramatically as a result of the COVID-19 pandemic. These changes are exacerbated by the sharp decline in oil prices to lows not seen in recent memory. The scale of the crisis, and the challenges it presents across B.C.'s natural gas value chain, is catastrophic and reinforces the critical need for prudent, competitive policies to keep people working by keeping industry activity going in B.C. – now and in the longer run.

Our industry directly employs more than 12,000 workers, accounts for 12 per cent of all industries' capital expenditures in the province, represents a substantive portion of provincial GDP and \$4 billion in export value. Working in concert with policy makers across the country, the oil and natural gas industry is committed to remaining a foundational element to B.C.'s near- and long-term economic recovery while ensuring no disruption of essential energy supply to the public during this crisis and beyond. It will also require prudent policy and regulatory amendments to support accelerated recovery from the COVID-19 crisis over the medium to longer term.

The one per cent BC Hydro rate reduction is a positive step, and the option for bill deferrals may help some operators in the short term. The current situation and its expected longer-term impacts, however, require the adoption of urgent short-term relief measures, and CAPP has advocated for sector-specific actions we believe support the objectives of safeguarding jobs, continuing to improve environmental performance and supporting a LNG industry in B.C. Phase 2 of the BC Hydro review presents an opportunity to do this – develop effective and efficient policies and regulations to enable upstream electrification while ensuring the upstream sector's competitiveness and ability to keep people working and advancing the province's CleanBC and LNG aspirations. Competitively priced electricity rates are central to this effort, which is why a single flat rate for the province's oil and natural gas sector is a key recommendation from our industry.

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CAPP and our members continue to support the B.C. government's objectives outlined in the CleanBC plan. We also agree that "a key goal is to ensure that B.C.'s leadership on climate change does not materially impair B.C.'s business competitiveness," as stated in Budget 2020. From our perspective, the twin goals of climate leadership and business competitiveness can be achieved together. This will require a multi-faceted approach. Expanding transmission infrastructure alone is not enough, because operators considering electrification cannot connect to the grid if it is not economically feasible. Instead, a combination of effective policy, regulatory and infrastructure measures is needed to give upstream operators greater access to the grid and also for grid connection to make economic sense.

We are encouraged that the ideas in the interim report focus on affordability and the need to ensure competitiveness. Prior to the COVID-19 crisis, the interim report stated that "access to reliable and secure power at competitive, fair and stable rates is central to [the EITE industries'] ability to remain competitive." While this is encouraging, the competitiveness state of the EITE industry is even more dire now. We recommend that the B.C. government adopt an even more stringent objective with regard to the prevention of carbon leakage as a core principle in policy development and implementation. Without this change, investment and production are more likely to leave the province, resulting in economic contraction, carbon leakage and increased total emissions.

Our feedback intends to inform necessary changes to make upstream electrification economically feasible while recognizing the significant challenges our industry is facing, help the province strive to meet its GHG reductions commitments, allow the upstream sector to grow after the COVID-19 pandemic is over, and provide responsibly produced natural gas to existing and new global markets.

In addition to this feedback, we have already provided specific germane information and recommendations in our two submissions dated September 24 and October 28, 2019 (see attachments). We encourage you to use these submissions and additional recommendations in this letter as you develop the final report and recommendations on the Phase 2 BC Hydro Review.

Rate design and fiscal incentives

Electricity prices and long-term rate stability play key roles in electrification investment decisions. Upstream operators are distinctive from other industries because of their ability to use an alternative source to generate power (i.e., self-produced natural gas in lieu of grid connection). Operating practices and robust regulations in B.C. have greatly reduced GHG emissions from natural gas, and natural gas is a relatively low-intensity, cost-effective alternative to grid connection. To make electrification economically feasible, the cost of connecting to BC Hydro's grid must be competitive with natural gas-generated power, including the operation cost associated with the BC Hydro rate, which must be predictable and stable for the long term. To protect against carbon leakage, we also need to compare the electricity price against natural gas-generated power in B.C. with other producing jurisdictions that do not have a carbon price or policy, or have liquid GHG offset markets help counterbalance these additional costs.

Competitive hydro rates

BC Hydro industrial rates must be competitively priced and transparent in their design. Rather than eliminating the tier 2 rate, which may result in an increase in tier 1 rates and not lower the blended average rate, the government should direct BC Hydro to establish a single flat rate that is specific to the upstream oil and natural gas sector. Such a rate should be more competitive than the blended two-tier rates when compared to using natural gas. The rate should apply equally to all oil and natural gas operators, and should be established on a long-term basis to allow industry to include it in their upfront investment decisions. Such a rate could, for example, be indexed to natural gas market prices, and government must provide regulatory support to ensure this single competitive rate is implemented.

A well-designed flat rate would also attract new firm industrial load to the grid. Given B.C.'s current electricity surplus, this single attractive rate will encourage the upstream industry's use of B.C.'s surplus energy. As noted in BC Hydro's May 11, 2020, report *Demand Dilemma*,¹ a decreased demand for power could result in a need to increase hydro rates to recoup costs. Demand for electricity in the province is a key factor in BC Hydro's rates — when electricity load falls, it puts upward pressure on future rates. Industrial load makes up 30 per cent of BC Hydro's overall electricity load and energy demand, and demand from industrial customers has decreased by seven per cent since mid-March.

Energy demand for forestry and mining could drop 22 to 28 per cent, according to this report. The oil and natural gas industry is expected to be less impacted with an expected drop of up to seven per cent. These forecasts, BC Hydro says, depend on the global response to COVID-19, as much of the load from BC Hydro's largest customers is highly correlated with economic activity outside of B.C., particularly in U.S. and Asian markets. Increasing firm industrial load from the upstream industry will benefit BC Hydro as it diversifies its industrial customer mix, which is currently heavily weighted on other traditional resource sectors. Increased electricity use inside B.C. will help keep rates low, benefiting all BC Hydro customers, and stimulate lower carbon intensive development of the province's natural gas and oil resources.

Exporting B.C. surplus power will be challenging as other jurisdictions are also experiencing considerably lower demand for electricity due to the economic effects of COVID-19. In North America, utilities are seeing declines of up to 25 per cent from their residential, commercial or industrial customers.

This approach fulfills the CleanBC objective of making things more efficient, while making sure the energy British Columbians use is "the cleanest possible and to the greatest extent possible made-in-B.C." If this approach is not adopted, BC Hydro should be directed to offer load attraction rates to attract loads that would not otherwise connect to the grid. For recommendations promoting the economic electrification of the LNG industry, please refer to the submission from the B.C. LNG Alliance (BCLNGA).

¹ https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/news-and-features/BC%20Hydro%20Report_COVID19_DemandDilemma.pdf

Recommendation: The B.C. government should direct BC Hydro to establish a single, competitively designed rate that is specific to the province's upstream oil and natural gas operators. Government must provide regulatory support to ensure it is implemented. Such a single rate could be indexed to natural gas prices and should be established on a long-term basis.

Affordable rates for EITE industries

EITE industries, including B.C.'s oil and natural gas sector, contribute significantly to the province's economy. Compared to other major oil and natural gas producing jurisdictions, B.C. is the only jurisdiction without substantive EITE protection. This presents a serious challenge both to preventing carbon leakage and investment migration. CleanBC explicitly acknowledges a low-carbon industrial strategy will need to focus on "enhancing British Columbia's competitive advantages while reducing our own GHG intensity and helping avoid carbon leakage." A flat rate, specific to the oil and natural gas sector, would be one step toward greater EITE protection. We are encouraged the interim report recognizes the need for EITE protection as a major determinant to ensure competitiveness, avoid investment migration and prevent carbon leakage. Any rate considerations would need to be combined with certainty of escalation of these rates on a long-term basis.

Recommendation: Adopt prevention of carbon leakage as a core principle of CleanBC implementation and all government policy development, develop an effective policy for grid connection, and establish a flat electricity rate that is competitive with alternative sources to generate power that are available to the upstream oil and natural gas industry (i.e., self-produced natural gas). Also, certainty on rate escalation is required, as competitive rates themselves are insufficient without rate certainty and predictability. In the interim, allowing industry to access programs such as the freshet rates for their total power consumption during the freshet period, and not just incremental power, will be beneficial.

Market-based offset programs

Electricity costs are currently not competitive with alternative sources to generate power (i.e., self-produced natural gas in lieu of grid connection). To manage this price disparity, we encourage the B.C. government to enable fungible greenfield and additional brownfield electrification offsets for avoided or reduced GHG emissions to help offset the operating expense differential between natural gas and electricity prices. Carbon offset programs could also contribute to better managing the price disparity between electricity and natural gas costs.

Recommendation: Expand the B.C. carbon offset program to allow credit purchases, or creation, by the private sector (including outside of B.C.) for use in carbon tax compliance. Develop an offset protocol for greenfield projects that would include electrification. Allow for greenfield projects to be funded under the CleanBC Industry Fund (or other government(s) funds).

Costs of interconnection and transmission infrastructure

Time and cost of interconnection

CAPP supports the premise, as stated in the interim report, that there is an "opportunity for BC Hydro to offer a rate that incentivizes the use of electricity as an alternative to fossil fuels." CAPP agrees that

the process and costs to connect to the grid need to be changed, both to make the interconnection queue process more efficient and to make the costs of interconnection more competitive. As the interim report suggests, current costs to interconnect are not competitive with alternative energy sources (i.e., natural gas). Measures to reduce costs of interconnection should therefore be explored.

Recommendation: BC Hydro to be directed to offer a rate that is competitive with alternatives to incentivize electrification. Consider an in-service date for infrastructure and install generation for the customer at no cost to the customer if infrastructure projects are delayed, which would reduce customer risk in choosing grid connection and provide an incentive to BC Hydro to meet in-service dates. CAPP also recommends the removal of the 150 MVA threshold, as this presents a barrier to potential load attraction and electrification.

Transmission infrastructure and regulatory changes

Several areas of northeastern B.C. are not close to the provincial electricity grid, and we look forward to how federal and provincial infrastructure funding will be used to support the development of additional transmission lines. Potential customers considering grid connection will need to see schedules for completing grid additions, substation locations and additional infrastructure they must install to connect to the grid, as well as rates and fiscal incentives. We agree, as suggested in the interim report, that customers should not bear the cost and risk of developing new transmission infrastructure. It is also important that additional transmission infrastructure be supported by measures to allow operators to connect to the grid efficiently. An open-season process may be a better option to manage the interconnection queue. However, a long-term competitively priced electricity rate (i.e., a competitive flat rate) must precede any changes to the interconnection process: rates must be economically feasible for interconnection to make financial sense. Also, while potentially more efficient, an open-season process would require a detailed discussion about appropriate bidding parameters to avoid unintended consequences.

Recommendation: Develop additional infrastructure under the federal/provincial MoU and make grid connection economically feasible (industry should not solely bear the cost for and risk of additional infrastructure). Once the transmission trunk line is built, it is important that all upstream customers are treated similarly with regards to tie-ins to BC Hydro infrastructure.

Intensity benchmarks

CAPP agrees that, if designed appropriately, intensity benchmarks can affect the cost-effectiveness of fuel switching and encourage upstream electrification. Setting a benchmark with full consideration and rational comparisons to other jurisdictions, competitiveness and carbon leakage should lead government to choose a world leading benchmark that is based on an efficient, best-in-class natural gas-driven facility. CAPP has provided analysis and evidence that demonstrates that an electrified CIIP benchmark will not achieve CleanBC's goal of "Enhancing British Columbia's competitive advantages while reducing our own GHG emissions intensity and helping avoid carbon leakage." Establishing benchmarks based on solid rationale can help deliver CleanBC objectives of using the cleanest energy by encouraging the lower GHG emissions associated with upstream electrification. Benchmarks set on

perception, can lead to contradictory outcomes by disadvantaging investment in B.C. and enabling carbon leakage.

Recommendation: Set benchmarks that are based on an efficient, best-in-class natural gas-driven facility, encouraging operators to electrify to receive full carbon-tax incentives under the CleanBC program.

Clean Energy Act self-sufficiency planning provision

CAPP appreciates the intent of the suggestion in the interim to eliminate the self-sufficiency provision in the *Clean Energy Act* to potentially lower costs to meet future demand. Such a change should be strictly considered with a view to allowing BC Hydro to better plan and to provide the utility with more flexibility to meet future demand at the least cost.

Recommendation: Any changes to the *Clean Energy Act* self-sufficiency provision should be made with a view to enable BC Hydro to acquire the lowest-cost power for its customers.

Potential new business areas for BC Hydro and changes to current practices

BC Hydro should be directed to be more entrepreneurial and allowed to be more flexible in how the utility engages with customers and plans (i.e., shorter and less expensive customer planning studies) and builds infrastructure in a timely manner. A key recommendation in this submission is the development of a flat rate, possibly indexed to commodity prices, for the oil and natural gas sector. As stated above, BC Hydro should be directed to establish such a rate for the upstream oil and natural gas sector. Additional examples of opportunities to be more flexible with respect to the upstream sector may include exploring mobile interconnection facilities to adapt to the shifting locations of upstream operations.

Further, BC Hydro must be directed to be more flexible to plan and build transmission infrastructure in anticipation of demand growth. Infrastructure could be built in a more timely manner as a result, which would allow upstream operators to better plan and consider connecting to the grid, provided a framework is in place to make grid connection economically feasible. Greater grid connection will benefit the ratepayer by using more surplus power and the general public by advancing the critical economic opportunity of LNG development and the objectives of CleanBC. Greater flexibility to anticipate demand growth, and to adjust infrastructure accordingly, would also benefit communities in underserved regions by giving them more timely access to the grid.

Recommendation: Government to direct BC Hydro to be more entrepreneurial to explore new ways of delivering power to customers, and to direct the utility to establish an upstream oil and natural gas sector electricity rate. BC Hydro to be enabled to be more anticipatory and to plan and build infrastructure in anticipation of demand growth.

Summary

We recognize the interim report was written before the full economic impact of COVID-19 was understood. Even now, the lasting impacts on the B.C., Canadian and global economies are unclear. For this reason, we encourage you to consider the urgent need to finalize your recommendations, taking into account this unprecedented situation and the severe financial strain under which our industry is now operating, and as the longer-term impacts of this pandemic are realized.

The interim report notes the importance of competitiveness considerations in achieving the government's climate objectives. With effective and efficient measures, electrification still presents a substantial opportunity to reduce emissions in the upstream oil and natural gas sector, while also providing BC Hydro with new long-term industrial load which could help keep rate lower for all customers. Creating a competitively priced flat electricity rate for our sector is critical to achieving these objectives. Also, as stated in this submission, a combination of measures is needed for electrification to be economically feasible. It would not be prudent public policy to expand transmission infrastructure without a fiscal and policy framework enabling customers to connect to an expanded grid. Nor is it prudent public policy to establish requirements and regulations that would drive investment, economic development and jobs out of the province. Thus, it is important that the B.C. government adopt an even more stringent objective with regard to the prevention of carbon leakage as a core principle in all policy development and implementation.

CAPP's recommendations are intended to inform practical approaches to make upstream electrification economically feasible while allowing the government to meet its climate and economic growth objectives. An innovative fiscal and policy framework could help BC Hydro and government to meet these objectives, contribute to B.C.'s reputation as a climate leader, and position the province's industry to be the natural gas supplier of choice, based on price and environmental performance, to global markets.

Thank you again for the opportunity to provide our feedback on the interim report. We look forward to further clarifying our recommendations with you as you conclude phase 2 of the BC Hydro Review. Should you have any questions, please contact me at geoff.morrison@capp.ca.

Sincerely,



Geoff Morrison
Manager, British Columbia

/attachment 1: Submission on Phase 2 of the BC Hydro review, September 24, 2019

/attachment 2: Follow-up submission on Phase 2 of the BC Hydro Review, October 28, 2019

September 24, 2019

Diane McSherry
Vice President, Projects
BC Hydro

Les MacLaren
Assistant Deputy Minister
Ministry of Energy, Mines and Petroleum Resources

via email: BCHydroReview@gov.bc.ca

Dear Ms. McSherry and Mr. MacLaren:

Re.: Feedback on Phase 2 of the B.C. Hydro Review

On behalf of the Canadian Association of Petroleum Producers and our member companies, we thank you for the opportunity to provide our preliminary feedback on phase 2 of the B.C. Hydro review.

CAPP and our members support the British Columbia government's objective to sustainably grow the economy, deliver more and higher-value jobs for British Columbians in resource industries and further reduce greenhouse gas emissions (GHGs) in the province, including the upstream natural gas sector and LNG value chain, as outlined in the CleanBC plan. This is an opportunity to further establish B.C.'s reputation as a global climate leader and to position natural gas as the energy source of choice, particularly in international markets where demand for this cleanest-burning fossil fuel is growing. We also wish to highlight that existing efforts to electrify upstream oil and natural gas production in B.C. have reduced greenhouse gas emissions by one million metric tonnes per year compared to traditional practices. We believe there is an opportunity to further address GHG emissions through innovation, well designed policies and practices.

Due to persisting low commodity prices, however, B.C.'s natural gas industry faces serious challenges that, at present, make upstream electrification and connection to the grid uneconomical. These challenges are the result of a multitude of factors, including the significant gap between natural gas prices and hydro electricity rates, and the timely and affordable availability of transmission infrastructure.

We believe this challenge can be overcome through deliberate collaboration among industry, governments, B.C. Hydro and the B.C. Utilities Commission. The August 29, 2019, memorandum of understanding between the provincial and federal governments to support upstream electrification

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is an encouraging step in this direction. We look forward to the results of the work of the Canada-British Columbia Clean Power Planning Committee, as well as further details on how industry can be involved in this work. We encourage the committee to include competitiveness challenges in the scope of their work, in addition to issues related to transmission infrastructure. In our view, matters related to operating expenses/economics and transmission infrastructure need to be addressed concurrently, as additional transmission infrastructure alone will not make electrification economically feasible.

Given that electrification is an opportunity to reduce emissions in the upstream oil and natural gas sector, and the rapid load growth of our industry in the last decade, we believe it a missed opportunity not to have this critical customer perspective included among the Expert Advisors who have been asked to provide input in the government's Advisory Group and Review Committee. We are concerned that this is currently not the case. Several of the questions posed in the phase 2 terms of reference – which the Review Committee, with the support of the Expert Advisors, is tasked to address – directly relate to our sector. It is therefore critical that our sector is represented in the group of Expert Advisors, and we strongly recommend that representation from our sector be included in this group.

In addition to this recommendation, this document provides potential solutions for your consideration, which we believe can help address electrification's economic challenges, help the province strive to meet its GHG reduction commitments, and allow the upstream sector to grow and provide responsibly produced natural gas to existing and new global markets.

Opportunity of electrification and grid connection

B.C. has a unique opportunity to be a leader in the global transition to a lower-carbon energy system. With the right measures in place, the province can become the preferred supplier of cost- and carbon-competitive natural gas to domestic and global markets. Not only could B.C. help avoid and reduce domestic GHG emissions, it could also help reduce emissions globally, particularly in developing markets.

Electrification of new upstream natural gas facilities and grid connection is the single-largest opportunity to achieve a substantial reduction in upstream emissions intensity. Decreasing upstream combustion emissions via grid connection could reduce the upstream carbon intensity by about half for connected facilities, according to *Proposed Actions to Address the Competitiveness of Canada's Upstream Oil and Natural Gas Sector*, an analysis by a joint industry-government working group.

The analysis estimates that as a result of Canadian Fugitive Methane Regulations and implementation of an upstream electrification and grid connection program, there is the potential to achieve up to 50 per cent increase in natural gas growth with no increase, or a slight decrease, in

upstream GHG emissions. More concretely, up to 750,000 tonnes per year of emissions could be mitigated by electrifying and grid connecting if 1 bcf per day of natural gas production is electrified. Upstream electrification and grid connection therefore play a key part in addressing emissions growth in the natural gas sector and can help position B.C. as a leader in supplying the cleanest LNG to global markets.

Additional electricity-transmission infrastructure is critical to achieving upstream electrification, particularly in the north Montney natural gas play, which currently has no access to B.C.'s electricity grid. Additional infrastructure is an opportunity not only for operators of natural gas facilities, but also for remote communities to connect to the provincial electricity grid. It would also generate economic benefits, including for First Nations, in terms of job creation during construction and operations.

Lastly, upstream electrification would allow B.C. Hydro to secure a steady electricity load for the long term and address the declining transmission-load profile.

B.C. Hydro data shows that transmission load of oil and natural gas, including LNG, has nearly tripled in the last decade, increasing to 2,244,000 MWh in 2019 from 810,000 MWh in 2009. Transmission load growth was particularly pronounced for natural gas processing, increasing to 1,660,000 MWh in 2019 from 380,000 MWh in 2009, or 437 per cent growth. Over the same period, the share of the oil and natural gas sector, including LNG, as a percentage of total large industrial load as increased to 16.2 per cent in 2019 from 5.7 per cent in 2009.

The transmission load of oil and natural gas is expected to grow once LNG export facilities planned for the West Coast start operating.

Current challenges and risks

The current gap between natural gas and hydro electricity prices is the single-largest challenge to upstream electrification. Natural gas prices would need to increase from current prices of less than \$2/mcf to at least the \$4-\$5/mcf range for grid connection to be economical. Most credible forecasters agree that due to the natural gas glut in North America, there will be ongoing downward pressure on price.

The lack of transmission infrastructure, particularly in the north Montney, is a further challenge that prevents natural gas producers from connecting their facilities to the grid. An extensive transmission infrastructure build-out is required to support electrification and to give upstream operators a realistic choice between self-generating and accessing the provincial electricity grid, provided electricity rates, transmission rates and tie-in costs are competitive.

We acknowledge the August 2019 memorandum of understanding between B.C. and federal governments could address these concerns, but particulars have yet to be outlined or finalized. We are encouraged the MOU indicates “the governments of British Columbia and Canada have a shared interest in electrifying natural gas production and liquefied natural gas production to build Canada’s clean energy brand as a supplier of the world’s cleanest natural gas” and that the governments “recognize that reliable and affordable access to electricity for natural gas proponents is a key factor in achieving climate change goals.” We look forward to working with the Canada-B.C. Clean Power Planning Committee on these objectives to advance natural gas and liquefied natural gas electrification. We have asked government how we can participate in the Clean Power Planning Committee.

Another key barrier to grid connection is the mismatch in the timing of decision-making of B.C. Hydro and upstream project developers. Large transmission projects by B.C. Hydro often require five years or more from sanctioning to in-service, whereas upstream natural gas projects can be in service within two years of sanctioning. As a result, transmission build-out decisions waiting on upstream sanction risk being too late. In the absence of grid connection, projects may be electrified with natural gas, though retrofitting later to tie-in to the grid may not be economically feasible.

As well, whereas other industries would need to relocate to other jurisdictions to take advantage of lower electricity costs, the upstream natural gas industry in B.C. has the ability to use an alternative energy source for its operations (i.e., self-produced natural gas in lieu of grid connection). B.C. Hydro’s rate structure, when compared to natural gas prices, is currently not competitive to attract transmission rate service natural gas customers. Looking at current and independently sourced electrical and natural gas price forecasts, B.C. Hydro rates are not competitive with self-generation in the foreseeable future and would therefore prevent B.C. Hydro from attracting upstream customers.

Collaboration and innovation are needed if B.C. is to reach its goal of developing its natural gas resources and to build Canada’s clean energy brand as a supplier of the world’s cleanest natural gas. Addressing competitiveness is critically important if B.C. is to achieve this objective and avert counterproductive consequences such as carbon leakage.

Carbon leakage occurs when production and investment shift from jurisdictions with more stringent carbon policies to jurisdictions with lower carbon policy standards, including many parts of the United States. In other words, while GHG emissions in B.C. may decrease, global emissions will not change due to carbon leakage. An effective policy for grid connection would prevent carbon leakage, decrease GHG emissions intensity domestically and result in fewer GHG emissions globally. This review must therefore be mindful of and include consideration of B.C. emissions intensive trade exposed (EITE) industries such the upstream oil and natural gas sector.

Lastly, electrification is particularly economically prohibitive for existing natural gas processing facilities. Whereas greenfield operations, provided an effective and efficient grid-connection policy combined with competitive electricity pricing is in place, may be able to fully electrify in an economically feasible manner, the same would not be the case for brownfield operations. In our view, we see no circumstance in which brownfield facilities can be retrofitted to be connected to the electricity grid in a manner that is economically feasible.

Potential solutions

The economic gap between self-generated (natural gas-fired) electricity and grid electricity is large. However, there is a possibility that upstream electrification and grid connection can be achieved if a number of measures are put in place to help bridge the gap between natural gas and electricity prices, and provide greater access to the provincial electricity grid. Our recommended solutions below focus on measures that B.C. Hydro can take, as well as measures that would fall under the jurisdiction of the B.C. Utilities Commission, and the provincial and federal governments. None of these measures alone would make electrification and grid connection economically feasible. Rather, it would be a combination of measures, or the opportunity to use multiple solutions, that would allow industry to electrify and thereby help government strive to meet its climate commitments.

Potential B.C. Hydro measures

Long-term competitive electricity pricing

Electricity prices are a critical factor in decision-making. At present, it appears that upstream operators would not be eligible for the proposed load attraction rates. The load attraction rate would likely have a positive influence on the decisions of upstream producers who are considering electrification, provided they are eligible to access these more competitive rates for the long term. While the load-attraction rate would not necessarily close the gap between electricity and natural gas prices, it would help to reduce the gap in many cases. Coupled with the potential for GHG offset generation from these facilities (please see below), the price disparity could be effectively managed.

In addition, there are several additional options for B.C. Hydro to consider. Freshet rates should be applicable to upstream producers, and the thresholds and eligibility criteria should be revisited. Also, baseline pricing for upstream producers should be based on Tier 1 rates (all upstream electrified plants should be permanently qualified through the DSM program without the existing 10-year expiry). B.C. Hydro could also consider expanding the scope of the Power Smart program and providing it with additional funding for eligible projects.

Lastly, rate stability and predictability are critical factors for upstream operators. Given that natural gas plants are multi-year projects, it is important that any rate increases tied to inflation are predictable, which would allow operators to evaluate future costs.

The recommendations above relate to the fact that upstream operators are distinctive compared to other industries, because upstream operators have the ability to use an alternative source to generate power (i.e., self-produced natural gas in lieu of grid connection). To make electrification economically feasible, hydro electricity rates must be competitive with natural-gas generated power.

Bridging options

Operators who choose to electrify in an area not connected to the provincial electricity grid would need to be provided with certainty of eventual access to electricity. B.C. Hydro is encouraged to develop programs to bridge the time lag until existing facilities are able to access electricity.

Potential B.C. Utilities Commission measures

The B.C. Utilities Commission has a critical role to play in working with B.C. Hydro and the upstream natural gas sector in reviewing and identifying all the factors, including GHG emissions and not just economic factors, that are needed to create a rate that incentivizes upstream electrification and load retention.

Potential government measures

Transmission and distribution infrastructure funding

Several areas of northeastern B.C., particularly the north Montney, are not close to the provincial electricity grid, which prevents operators in these areas from considering connecting to the grid. Federal and/or provincial infrastructure funding to support the development of additional transmission lines would allow operators to connect to the provincial electricity grid. Additional transmission infrastructure, however, needs to be combined with additional measures to make grid connection economically feasible.

Capital cost allowance and capital cost incentives

Capital cost allowance should be designed to allow operators to write off 100 per cent of the capital infrastructure cost of electrification. Also, capital incentive programs similar to B.C. Hydro Power Smart could be an effective way to encourage electrification. For example, government could consider leveraging and enhancing how the CleanBC Industrial Incentive Program can be used to offset higher electricity costs or provide capital relief for producers installing electric drive compression.

Royalty credits

Royalty credits are a potential way to offset the increased operating costs for operators who choose to electrify. The existing Clean Growth Infrastructure Royalty Program should continue to support electrification and grid connection projects in addition to other measures (e.g., transmission capital costs, hydro-rate certainty and offset programs) to help close the existing gap to grid connection. Also, the scope of this program could be expanded beyond capital costs, where operating expenditures linked to electricity can be offset by royalty credits on an annual basis for facilities that have electrified.

Market-based offset programs

The B.C. government is encouraged to enable greenfield electrification offsets to help offset the operating expense differential between natural gas and electricity prices. The generation of offset credits for sale in a fully functioning secondary credit market in B.C. would provide an additional revenue stream to offset the high cost of electrification and grid connection. Operators should also be able to use offsets for corporate compliance.

Also, we encourage government to enable fungible greenfield and brownfield electrification offsets for avoided and reduced GHG emissions and allow parties in B.C. to use offsets to meet their carbon-tax obligations to help narrow the operating expense differential between natural gas and electricity rates.

Summary

Upstream electrification and grid connection are a tangible and significant opportunity for the B.C. government to meet its GHG reduction commitments. Completion of the Dawson Creek/Chetwynd Area Transmission Project and advancing of the Peace Region Electricity Supply Project are important steps in this regard, and we thank B.C. Hydro and the B.C. government for their efforts on these two projects.

Our industry is prepared to engage with government to discuss how electrification and grid connection of the upstream industry can be made possible to help meet these commitments. As detailed in this document, electrification and grid connection can be economically feasible if governments and B.C. Hydro, in consultation with industry, develop and implement efficient solutions to current challenges to grid connection. If done right, electrification would further contribute to B.C.'s reputation as a climate leader and position the province and our industry to be the natural gas supplier of choice to global markets. We also look forward to the next steps of the Canada-B.C. Clean Power Committee, as well as to how industry can become involved in this work.

Lastly, we'd like to emphasize again that it is critical the upstream oil and natural gas sector is included in the group of experts that will advise the Review Committee and Advisory Group, and that EITE protection be a critical objective of the review. We are concerned this is currently not the

September 24, 2019

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Diane McSherry, Vice President, Projects, BC Hydro

Les MacLaren, Assistant Deputy Minister, Ministry of Energy, Mines and Petroleum Resources

Re: Feedback on Phase 2 of the B.C. Hydro Review

case and hope this issue can be addressed. We believe there are emerging innovative ideas to substitute more carbon intensive fuels with electricity in various upstream development and processing operations, and we request an opportunity to share and discuss these ideas with the government directly or with the Advisory Group.

Thank you again for the opportunity to provide our comments on phase 2 of the B.C. Hydro review. Should you require any clarifications on the points made in this document, or should you have any questions, please feel free to contact me at geoff.morrison@capp.ca.

Sincerely,

A handwritten signature in blue ink, appearing to read "Geoff Morrison", is written over a light blue rectangular background.

Geoff Morrison

Manager, British Columbia

October 28, 2019

Diane McSherry
Vice President, Projects
BC Hydro

Les MacLaren
Assistant Deputy Minister
Ministry of Energy, Mines and Petroleum Resources

via email: BCHydroReview@gov.bc.ca

Dear Ms. McSherry and Mr. MacLaren:

Re: Feedback on phase 2 of the BC Hydro Review – follow-up submission

On behalf of the Canadian Association of Petroleum Producers and our member companies, we would like to provide you with additional feedback on phase 2 of the BC Hydro review for your consideration.

This document follows up on our October 7 meeting in Victoria and includes innovative ideas that address the following questions listed in the phase 2 review terms of reference:

- What is required to ensure that new customer demand for access to clean electricity from the grid is achieved in an efficient, cost-effective and timely manner?
- What actions are needed to ensure that BC Hydro is able to benefit from new markets and integrate new technologies while keeping rates affordable?

According to BC Hydro data, declining industrial load in sectors such as pulp and paper is one of the key pressures facing BC Hydro. British Columbia's upstream oil and natural gas industry, meanwhile, is a market with significant potential for industrial load growth, with the ability to make a significant impact on global GHG emissions, provided that effective and efficient measures are put in place by BC Hydro and government to make electrification economically feasible and competitive with alternatives. This is an opportunity to further establish B.C.'s reputation as a global climate leader and to position B.C. natural gas as the energy source of choice, particularly in international markets where demand for this cleanest-burning fossil fuel is growing.

We believe the ideas presented in this letter should be explored, as they could provide opportunities for rate stability and predictability to upstream operators, both of which are needed to make current investment decisions for long-term projects, such as natural gas processing plants.

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Today's low commodity price environment makes the electrification of B.C.'s upstream oil and natural gas industry uncompetitive due to the significant gap between natural gas prices and hydroelectricity rates. Electrification of new upstream oil and natural gas facilities is the single-largest opportunity to assist government to meet its climate commitments, and help BC Hydro to secure long-term and steady industrial load from the oil and natural gas sector.

As noted in our September 24 submission, none of the recommendations in this document alone would make electrification and grid connection competitive. Rather, it would be a combination of measures, or the use of multiple solutions, that could help create an innovative fiscal and policy framework to enable industry to electrify.

Innovative electricity rate design

Upstream operators currently do not have access to stable long-term electricity rates. This cost uncertainty makes it challenging for operators to evaluate the economic feasibility of upstream facilities such as natural gas processing plants, which have a lifespan of several decades.

Recommendation: Advisory group to consider options for long-term fixed-rate agreements between BC Hydro and upstream operators. The upstream oil and natural gas industry is unique in that it has the ability to make significant impacts on the reduction and avoidance of GHG emissions, thereby aiding the government in meeting its CleanBC targets. A long-term industry-specific rate design for the upstream sector that is competitive with the alternative energy source for the upstream sector (i.e., natural gas) and its current low commodity price will allow companies to make strategic decisions on the electrification of future projects and encourage clean growth in B.C.

Alternatives approaches for managing the interconnection queue

In our view, the current interconnection queue process is not necessarily the most efficient mechanism to process interconnection requests from upstream operators, as it does not provide certainty for timely access to electricity.

Recommendation: Advisory group to examine alternatives to managing the queue. For example, the process by which pipelines get access to natural gas (e.g., an "open season") may be an option that can be explored to give upstream operators greater certainty to access electricity in a timely and fair manner.

Fiscal incentives and electrification offset protocol to make electrification of facilities more competitive

Electricity costs are currently not competitive with alternative sources to generate power (i.e., self-produced natural gas in lieu of grid connection). Fiscal incentives are a potential way to offset increased operating costs, thereby making electrification more economically feasible for operators

compared to alternative fuel sources. Also, developing an electrification offset program that meets federal and international criteria for GHG credit development (fungible electrification offsets for avoided and reduced GHG emissions) will provide an additional revenue stream to offset the high costs of electrification.

Recommendation: Advisory group to examine fiscal incentives, such as royalty credits, and an electrification offset protocol for operators who choose to electrify. The intent of this recommendation is to explore options to narrow the significant gap between electricity and natural gas costs, thereby making electrification more economically feasible.

Summary

The main objective of the second phase of the BC Hydro review is to ensure the CleanBC emission reduction targets can be met in a manner that ensures the sustainability of BC Hydro. Electrification is an opportunity to reduce emissions in the upstream oil and natural gas sector, while also providing BC Hydro with long-term industrial load at a time when load from other industrial sectors is declining. An innovative fiscal and policy framework could help BC Hydro and government to meet this objective, contribute to B.C.'s reputation as a climate leader, and position the province and our industry to be the natural gas supplier of choice to global markets.

We look forward to further consulting with you once the interim report and recommendations are completed.

Thank you again for the opportunity to provide these additional comments on Phase 2 of the BC Hydro Review. Should you require any clarifications on the points made in this document, or should you have any questions, please feel free to contact me at geoff.morrison@capp.ca.

Sincerely,



Geoff Morrison

Manager, British Columbia

Canadian Association of Petroleum Producers