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February 17, 2015

Ms. Tracy Jansen
Clerk of the Board
California Air Resources Board
1001 I Street
PO Box 2815
Sacramento, California 95812
USA

Dear Ms. Jansen:

On behalf of the Government of Alberta, I would like to provide you with comments on the re-adoption of the updated Low Carbon Fuel Standard (LCFS) being implemented by the California Air Resources Board (CARB).

Albertans, like Californians, understand the importance of carbon management and the need to gradually transition to alternative, less carbon intensive forms of energy. Nevertheless, North America will continue to require secure supplies of oil and gas for decades to come. As Alberta develops its natural resources, environmental stewardship and social responsibility will continue to remain of great importance.

Alberta has a strong desire to collaborate with other jurisdictions to strengthen North America's integrated energy and economic systems as we continue to focus on technology and innovation to address climate change. Alberta has been a strong supporter of long-term efforts to reduce greenhouse gas emissions and continues to support the intent of the LCFS. The Government of Alberta encourages California to consider Alberta's mandatory upstream oil greenhouse gas emissions reduction policies in the development of Alberta's crude oil carbon intensity (CI) values. Under Alberta's greenhouse gas emissions regulatory framework, oil that comes from a regulated facility has a reduction obligation.

In 2007, Alberta passed the Specified Gas Emitters Regulation (SGER), a regulatory framework to reduce greenhouse gas emissions intensity from large industrial emitters and to set up a carbon trading market. Since July 1, 2007, the regulatory framework requires large emitters (facilities releasing 100,000 tonnes or more of greenhouse gas emissions annually) to reduce emissions intensity by 12 per cent.

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There are four choices to comply with reduction targets:

1) make facility improvements to reduce greenhouse gas emissions intensity;
2) use emission performance credits (exceeding 12 per cent target) created in previous years or at other facilities;
3) purchase Alberta-based carbon offset credits; and/or
4) pay $15 per tonne into the Climate Change and Emissions Management Fund (CCEMF).

To date, nearly 51 megatonnes of reductions have been realized relative to business-as-usual projections, and over $503 million has been contributed to the CCEMF, with $249 million invested into clean energy projects.

In the re-proposed LCFS, there does not appear to be recognition of emissions reductions achieved through flexible compliance options, such as Alberta-based carbon offsets, in the development of CI values. A robust analysis of various international crudes should recognize all emissions reductions driven by a jurisdiction's climate change policies. This should include direct emission reductions, as well as greenhouse gas emission reductions that occur through carbon offsets.

It would also be of interest to Alberta to understand how marketable crude oils (MCOs) derived from SGER facilities may be incentivized under the re-adopted LCFS. We are pleased to see that the proposed and updated *Crude Oil Carbon Intensity Lookup Table* values now reference a single, non-discriminatory baseline default CI value for all MCOs that comprise the California crude basket, regardless of production method. However, as previously outlined to the CARB in our 2012 submission, updating the LCFS to address issues regarding crude production data quality will be paramount to LCFS's ability to meet regulatory goals.

Assumptions made on crude oil production in absence of transparent data may have significant impact on the overall carbon-intensity value of a particular crude oil pathway and how it is categorized.

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As drafted, accuracy for LCFS crude estimates is ultimately limited by the data quality reported by an operator. Data quality within North America, and even more significantly from overseas sources, varies considerably from region to region, with key crude production data often remaining undisclosed, such as flaring and venting and produced fluids. As such, data variability and information gaps between jurisdictions have a considerable impact on the uncertainty associated with the estimated carbon-intensity value of their respective crude oils. Relative to Alberta, the availability and reliability of crude production data input into the Oil Production Greenhouse Gas Emissions Estimator (OPGEE) model provided to California by other jurisdictions remains an outstanding concern.

During a February 20, 2014 workshop[1] in Brussels, Belgium, Professor Adam Brandt discussed details for current work in areas of model calibration and data uncertainty, and also planned Phase II activities for the OPGEE, including oil sands modelling, tight oil, hydraulic fracturing, CO_2 enhanced oil recovery and solar-thermal technology. Updates for such modules may have considerable impacts on the carbon intensities for current MCOs comprising the California feedstock and warrant regular updates to the re-adopted *Crude Oil CI Lookup Table*. The Alberta government welcomes the opportunity to work with the CARB in its modelling efforts for such Phase II activities, particularly in areas related to oil sands.

Alberta continues to make efforts in reducing its environmental footprint and in effectively managing its carbon emissions, illustrated by the use of innovative crude production technologies in existing reserves and improved environmental monitoring technologies that encourage responsible development of Alberta-based crude oils.

It is clear that Alberta and California are both working toward reducing the overall environmental footprint of our energy production and use. We are working toward a clean energy future that includes de-carbonized fossil fuels. Alberta has stringent legislation and measures in place to protect air, land and water during oil and gas development, and we are committed to ongoing environmental improvements that will ensure we remain among the most environmentally responsible energy producers in the world.

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[1] https://circabc.europa.eu/sd/a/e85d829b-2b8a-44dd-974a-552f0e8f478a/Slides%20-%20OPGEE_Feb20_EU_v3.pdf

Alberta welcomes the opportunity to continue to work with California, and I would like to offer our province's key learnings and experiences in crude oil data collection and management. Attached are additional technical comments for your consideration, and we would be happy to further discuss these with you.

Thank you again for providing the opportunity for Alberta to further discuss the LCFS with you.

Best regards,

Gitane De Silva
Deputy Minister

Attachment

cc: Grant Sprague
Deputy Minister of Alberta Energy

Bill Werry
Deputy Minister of Alberta Environment and Sustainable Resource Development

Cassie Doyle
Consul General, Consulate General of Canada in San Francisco