

Value Chain Solutions–Heartland Complex Expansion Project - Summary of Issues

This document provides a high-level summary of the issues submitted to the Impact Assessment Agency of Canada on the Value Chain Solutions–Heartland Complex Expansion Project (the Project) during the comment period on the Initial Project Description submitted by Value Chain Solutions Inc. (the proponent). Original submissions are posted on the Canadian Impact Assessment Registry (Reference Number # 81148). Categories are listed in alphabetical order.

Accidents and Malfunctions
Clarity on potential pathways to groundwater contamination, such as overland flow and for accidental release of deleterious substances, and means to protect surface waters and near-surface potable groundwater aquifers from wastewater injection.
Clarity on guidelines that will be followed in the event of accidental spills of fuels, hydrocarbons, chemicals, and waste products.
Potential effects to the environment, including water resources, wildlife, vegetation, and aquatic life, from accidents and malfunctions, such as spills from the storm water holding ponds, fuels, hydrocarbons, chemicals and waste products, failure of the water treatment system, explosion or fire from natural gas systems and hydrogen manufacturing units, failure of transport and storage structures for bitumen product, or incidents associated with other project components or activities, and means to mitigate or monitor effects.
Potential effects to water quality and wildlife health due to accidental release of propylene glycol during hydrotesting.
Acoustic Environment
Potential effects, including an assessment of cumulative effects, to human health and well-being due to increased noise levels from project activities such as machinery use, blasting, drilling activities, and increased traffic, including timing of activities and proposed mitigation and monitoring plans.
Alternative Means of Carrying Out the Project
Clarity on alternative means of carrying out the Project, including any technologies and processes considered, justification for selection(s), including how greenhouse gas emissions were considered for selection(s).
Atmospheric Environment
Clarity on if the Canadian Ambient Air Quality Standards and objectives will be used to undertake an assessment of existing baseline and predicted future air quality application cases.
Potential effects and cumulative effects to the biological environment from settled air contaminants due to metals and polycyclic aromatic compound emissions, and nitrous oxides and sulfur oxides emissions.
Potential effects and cumulative effects to air quality and the health and well-being of local residents due to increased fugitive dust emissions and concentrations of particulate matter in the atmosphere from earth moving and project operations, and means to mitigate and monitor effects.
Potential effects to air quality due to emissions of criteria air contaminants (e.g. sulfur oxides, nitrous oxides, volatile organic compounds, and particulate matter) from petroleum and chemical storage, handling, processing, and wastewater treatment options.

Potential effects to air quality, including cumulative effects, due to emissions of criteria air contaminants (e.g., nitrous oxides, fine particulate matter, volatile organic compounds, sulfur dioxide, polycyclic aromatic compounds, and metals) from the combustion of diesel fuel in equipment, the processing of bitumen, and other relevant operations.
Potential effects to air quality outside of immediate region due to long-range transportation, and means to mitigate and monitor effects.
Sources of air emissions affecting air quality throughout all phases of the Project, including nitrogen oxides, carbon monoxide, sulphur oxides, particulates, and volatile organic compounds.
Climate Change and Greenhouse Gas Emissions
Assessment of greenhouse gas emissions and contribution to climate change as per the Strategic Assessment of Climate Change ¹ , and description of how the Project aligns with the Government of Canada's long-term goal to achieve net-zero emissions by 2050.
Assessment of how Project fits under Alberta's 100 MT cap and Canada's goal to exceed 2030 greenhouse gas emission reduction targets.
Clarity on the scope of activities included in the annual estimate of greenhouse gas emissions, an estimate of greenhouse gas emissions for each Project phase, and information on the methodology, data, emissions factors, and assumptions used to quantify greenhouse gas estimates.
Clarity on the specific technologies and practices under consideration to reduce greenhouse gas emissions, including best available technologies and best environmental practices.
Effects on carbon sinks (e.g., forests, wetlands) that absorb carbon dioxide from the atmosphere, and the quantification of impacted land areas (e.g., forests, cropland, grassland, wetlands, and built up land).
Clarity on estimation for avoided greenhouse gas emissions, as per the criteria found in Section 3.1.1 of the Strategic Assessment of Climate Change.
Cumulative Effects
Potential for cumulative effects with existing and future projects and activities in the region, including to air and water quality and quantity (e.g., water withdrawals from the North Saskatchewan River), due to the large scale of industrial development in the Alberta Industrial Heartland.
Social and Economic Conditions
Potential effects on the crude oil and refined products market, including energy commodity prices, economic and financial indicators, energy security, investment trends and competitiveness issues.
Potential effects to access and use of resources, such as education, information and services, and additional detail on plans to implement local employment and policies and planning, and increasing training, employment and retention of women and other under-represented groups.
Effects of the Environment on the Project
Potential effects of climate change on the Project that could lead to accidents and malfunctions or changes in baseline conditions, including clarity on measures or design features to increase the resilience of the Project to climate change.

¹ Government of Canada. 2020. Strategic Assessment of Climate Change, Revised October 2020. Available at <https://www.strategicasessmentclimatechange.ca/>

Federal Lands
Effects assessments for air quality and associated impacts, noise, and health should include Elk Island National Park.
Fish and Fish Habitat
Potential to cause harmful alteration, disruption, or destruction of fish habitat, or death of fish, and means to mitigate, offset, and monitor effects, including consideration of potential cumulative effects.
Clarity on methods to compare predicted and actual effects to fish and fish habitat and methods to avoid and mitigate effects to fish and fish habitat, and death of fish.
Offsetting plan for any harmful alteration, disruption, destruction to fish and fish habitat, or death of fish, including proposed monitoring to verify offsetting success.
Potential effects on life processes of fish in waterbodies with water withdrawal and/or water drawdown, or erosion and sedimentation.
Potential effects to fish species of Indigenous cultural importance and clarity on measures to protect fish and fish habitat in the North Saskatchewan River through all Project phases.
Follow-up and Monitoring Programs
Clarity on reclamation of land for the use of future generations.
Human Health and Well-Being
Clarity on the potential for emissions or the release of contaminants of potential concern, clarity on potential human receptors, and existing pathways for human exposure to contaminants of potential concern, and clarity on potential noise emissions that reach nearby human receptors.
Recommendation to conduct a Human Health Risk Assessment that contains all relevant contaminants and exposure pathways, and locations of human receptors relative to the Project.
Potential effects on local and regional drinking water sources, their proximity to the Project site, and location of drinking water treatment facilities, including consideration of accidents and malfunctions.
Indigenous Consultation and Engagement
Need for ongoing meaningful and collaborative proponent engagement and Crown consultation with all Indigenous communities identified on the Agency's consultation list throughout all Project phases.
Need for consultation and engagement with Indigenous communities that respect Indigenous cultures, traditions, customary laws and protocols.
Indigenous Knowledge
Potential effects to Indigenous knowledge, language, and culture, and clarity on support for cultural initiatives related to their preservation, recording, and retention.
Indigenous Peoples' Use of Lands and Resources for Traditional Purposes
Potential effects to wildlife and birds including ducks, geese and ungulates, and the quality of harvested traditional vegetation, aquatic and wildlife resources.
Potential effects and cumulative effects on current use in the area, access to preferred locations for harvesting, and impacts to the ability of Indigenous peoples to engage in and transmit cultural language, traditions, and practices.
Potential effects of increased fragmentation and loss of land and quality resources for use in traditional practices.

Support for study and understanding of the baseline, cumulative, and project-specific effects to traditional land use and rights.
Indigenous Peoples' Health and Well-being
Potential effects and cumulative effects to Indigenous peoples' health through consumption or use of country foods (including duck eggs and fish) and medicinal plants exposed to contaminants from the Project in water, air, or soil.
Potential effects to Indigenous health and the use and enjoyment of traditional lands and waters, through reduced air quality or other direct exposure to contaminants.
Potential effects to Indigenous health and well-being due to influx of workers and resulting pressures on services and housing and the potential for race or gender-based discrimination or violence.
Indigenous Peoples' Rights
Potential impacts and cumulative impacts to Aboriginal or Treaty rights, including the opportunity to jointly develop the assessment of rights.
Concern that the benefits to Indigenous groups are identified without consideration of impacts to rights.
Indigenous Peoples' Social and Economic Conditions
Clarity on potential job and training opportunities for Indigenous peoples, including women and youth.
Clarity on plans, processes, and reporting regarding engagement with and inclusion of Indigenous groups and businesses in economic and business opportunities.
Potential effects to social cohesion and community values, including through deterrence of traditional harvesting activities in the area, including focus on the differential effects to women, elders, and young people.
Indigenous Peoples' Spiritual, Physical, and Cultural Heritage
Clarity on if an archaeological or historic resource impact assessment has been completed and how Indigenous peoples have been, or will be engaged or informed.
Potential effects to structures, sites, or things of historical, archaeological, and paleontological significance to Indigenous peoples, and subsequent effects on Indigenous knowledge transmission.
Potential effects on Indigenous peoples' experience of the cultural landscape, in particular the North Saskatchewan River Valley, affecting cultural identity and transmission to future generations.
Support for study and understanding of physical and cultural heritage (e.g., ceremonial sites, burial sites, cultural landscapes) and sharing of information on any new findings.
Migratory Birds and their Habitat
Potential effects and cumulative effects to migratory birds due to the removal of nesting, foraging, staging, and overwintering habitat, including nesting areas and riparian habitat in the North Saskatchewan River valley.
Potential mortality of migratory birds due to contact with harmful substances that could result from accidental oil or chemical spills, and collisions with vehicles or project infrastructure, including consideration of cumulative effects.
Potential effects and cumulative effects to migratory birds from sensory disturbance (i.e., noise, vibrations, light) and the presence of workers, such as avoidance of habitats adjacent to the site and disorientation or attraction to the Project area, resulting in injury or death. Include details on the amount, duration, frequency, and timing of sensory disturbances.

Navigation
Clarity on potential effects to navigation, including construction details and methodology for works within a waterway, existing waterway infrastructure used in the Project, timing and quantity of water withdrawal and effects to navigation, and contribution to cumulative effects.
Species at Risk, Terrestrial Wildlife, and their Habitat
Potential effects and cumulative effects to wildlife and other species at risk due to loss of habitat and negative effects from potential changes in air, vegetation, water and soil quality, including from accidents or malfunctions.
Clarity on the pathways of effects to wildlife and habitat, including duration, scale, and location of activities, and baseline conditions, taking into consideration behavioural adaptability, presence, species limiting factors and population resilience.
Potential effects to species at risk, culturally significant species, terrestrial and aquatic wildlife and their habitat, including travel corridors, related to effects to the North Saskatchewan River and Astotin Creek.
Vulnerable Population Groups (Gender Based Analysis Plus)
Inclusion of disaggregated baseline data to understand how the Project could potentially impact different population subgroups in different ways, including potential social, economic and health effects and community well-being.
Potential effects on diverse groups of people and across Project phases, including clarity on efforts to narrow gender gaps and other disparities, as demonstrated through gender based analysis plus assessment and means of mitigation.
Clarity on potential issues of gender based violence, such as sexual harassment, violence against women, human trafficking, and means to avoid or mitigate potential issues, including any policies or information on external interactions with Indigenous peoples in or around the Project, including potential for differential effects on women.
Clarity on policies to reduce discrimination against Indigenous people identifying as Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Asexual, Two-Spirit, etc. (LGBTQIA2S+) and to support such individuals in accessing and retaining employment, training, and career development.
Need for identification and confirmation of potential effects with potentially impacted communities and Indigenous groups, including identification and avoidance or mitigation of adverse effects to vulnerable subgroups.
Water – Groundwater and Surface Water
Potential effects and cumulative effects, to groundwater recharge and discharge quantities, groundwater quality and levels, and groundwater-surface water interactions due to landscape alterations, drilling and usage of a deep groundwater disposal well for wastewater, the Project's groundwater management system, and wastewater streams for all project conditions (i.e. normal, start-up, worst-case, and upset conditions).
Potential effects on the deposition of particulate matter, and the introduction of high concentrations of erosion sediment, hydrocarbons, and other contaminants to surrounding waters from the operation of heavy equipment, bitumen processing, and land clearing.
Potential effects on surface water quality of nearby waterbodies and watercourses, including the North Saskatchewan River and Astotin Creek watersheds, including consideration of interaction with groundwater in contact with process-affected waters.
Potential effects to surface water quantity from river withdrawal, altered surface flows, and removal of wetlands.

Wetlands
Potential release of air contaminants that may lead to acidification of waterbodies and subsequent effects on aquatic and terrestrial wildlife and vegetation.
Potential effects and cumulative effects on wetland function, direct loss of wetlands, quality of wetland habitat, and residual effects, including consideration of ecological functions of wetlands and any resultant effects to migratory birds, species at risk, and other wildlife, given that the Project overlaps with Astotin Creek and several open water, fen, marsh, and swamp wetlands.