Reconciliation and the Intersections of Indigenous Peoples and Climate Change

— Literature Review and Recommendations

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by

Paulette Fox

Harmony Walkers Inc.
Environmental Consultants

Alexandra Hatcher

Alexandra Hatcher
Consulting

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The Calgary area where the Bow and Elbow Rivers meet is a place of confluence where the sharing of ideas and opportunities naturally come together. Indigenous Peoples have their own names for this area that have been in use long before Scottish settlers named this place Calgary. In the Blackfoot language, Moh'kinsstis; in Stoney Nakoda language, Wîchîskpa Oyade, and the Tsuut'ina language, Guts-ists-i. The Métis word for Calgary is Otos-kwunee.

We would like to acknowledge that this project is located on the traditional territories of the Blackfoot and Treaty 7 First Nations in Southern Alberta. This includes: the Siksika, Piikani, and Kainai collectively known as the Blackfoot Confederacy, along with the Blackfeet in Montana; the Îethka Nakoda Wîcastabi First Nations, comprised of the Chiniki, Bearspaw, and Wesley First Nations; and the Tsuut'ina First Nation. The city of Calgary is now also home to Northwest Métis and to Métis Nation of Alberta Region 3, Indigenous urban Calgarians, First Nations, Inuit, and Métis, who have made Calgary their home.

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Executive Summary

Increasing uncertainty and frequency related to weather extremes caused by human induced climate change will continue to adversely affect all sectors of society. Damages from the 2021 floods, fires and pandemic may not even be calculated. Meanwhile, costs related to the 2013 floods totalling approximately $6 billion (City of Calgary, nd) offer a forecast for what we can expect in the coming decades for the City of Calgary. Unfortunately, this doesn't include the incalculable costs related to mental health and well-being aspects associated with climate displacement as research and resources remain limited to physical impacts.

Numerous domestic and international reports and commissions point to the need to include Indigenous Peoples, not only through the lens or scope of mainstream frameworks, but from their own knowledge systems. Increasingly, Ethical Space and other Indigenous-led holistic approaches are emerging to support this principle of inclusion of Indigenous Traditional Knowledge through appropriate processes that do not marginalize the people whom the knowledge belongs. The intersections of Indigenous Peoples and climate change, remain complex and there is an important call to decolonize climate policy.

Indigenous Peoples have been experiencing and witnessing the cumulative effects of industrialization and human-induced climate change, and after several decades of sounding the alarm bells, barriers to inclusion through colonial interests, have led to disparities, inequities, and injustices (Little Bear, 2000). Several reports indicate that Indigenous Peoples disproportionality bare the brunt of these cascading impacts (United Nations, 2018) and are affected in ways that impact the ability to practice treaty and other rights, among other things, as well as pass down vital oral customs and traditions.

Anchoring inclusion of Indigenous Peoples from Treaty 7 First Nations, the Blackfoot Confederacy and urban First Nation, Inuit, and Métis people through a Distinctions-Based approach for The City builds on the commitment to fostering equitable environments through early engagement and action. Listening to and learning from diverse cultures and languages brings about the importance of both biological and cultural diversity across ecosystems and the need to restore Biocultural Diversity (Maffi 2014; Davidson-Hunt 2012). Through Ethical Space principles, and other Indigenous-led concepts and approaches, this report provides key considerations for grounding climate strategies and actions in reconciliation.

Introduction

Globally, Indigenous Peoples protect 80% of the world's biodiversity but comprise less than five percent of the population (United Nations Environment Program [UNEP], 2017). Rooted in a holistic Biocultural Diversity (Maffi 2014; Davidson-Hunt 2012) worldview where everything is connected, and everything is one, what is it about the relationship between Indigenous Peoples and the land that results in such positive sustainable outcomes? Moreover, how can these relationships inform climate policy at the City of Calgary in the spirit and intent of Reconciliation? The following report draws on the notions of Intersectional Policy-based Analysis (IPBA), as well as Indigenous-led concepts and approaches to explore cross-cutting themes, including challenges and opportunities for putting reconciliation into climate action.

The intersections of Indigenous Peoples and human-induced climate change are complex, and there remain significant gaps in knowledge, policy and practice at various scales and levels. For many First Nations, Inuit, and Métis communities, it is difficult to have a conversation about climate change without discussing the impacts of colonization. The root causes are connected and there is an important call to decolonize climate policy. Anchoring inclusion of Indigenous Peoples from Treaty 7 First Nations, the Blackfoot Confederacy and urban First Nation, Inuit, and Métis people through a Distinctions Based approach for The City builds on the commitment to fostering equitable environments through early engagement and action. Listening to and learning from diverse cultures and languages brings about the importance of both biological and cultural diversity across ecosystems and the need to restore the Biocultural Diversity (Maffi 2014; Davidson-Hunt 2012).

Through this Literature Review, two questions will be explored: 1) How can The City's Climate Action Strategy and Action Plans respect, support, and use Indigenous Traditional Ecological Knowledge? and 2) How can The City engage Indigenous Peoples through Climate Action Strategy and Action Plans towards equitable and inclusive environments?

This report utilizes the Four Ways Forward as outlined in the City of Calgary's Indigenous Policy Framework (IPF) as guideposts to structure critical themes emerging from the literature. Including: **A) Ways of Knowing, B) Ways of Engaging, C) Ways of Building Relationships,** and **D) Ways Toward Equitable Environments.** In Part A, Indigenous-led concepts and approaches are presented to help frame Indigenous ways of knowing including understanding the vital relationships and connections Indigenous peoples have to the land. From here, in Part B we dive into case studies that are intended to guide conversations related to meaningful engagement. In Part C and D we focus on Indigenous-led innovations and sustainable solutions. Through Ethical Space principles, and other Indigenous-led concepts and approaches, this report provides key considerations for grounding climate strategies and actions in reconciliation.

A. Ways of Knowing

Indigenous Peoples have been experiencing and witnessing the cumulative effects of industrialization and human-induced climate change, and after several decades of sounding the alarm bells, barriers to inclusion through colonial interests, have led to disparities, inequities, and injustices (Little Bear, 2000). Several reports indicate that Indigenous Peoples disproportionality bare the brunt of these cascading impacts (UNEP, 2017), and are affected in ways that impact the ability to practice treaty and other rights, among other things, including passing down vital oral customs and traditions. Science alone cannot address the issues surrounding human-induced climate change and the rapid loss of biodiversity, the two are inter-related.

Utilizing the best available knowledge can be challenging as there are multiple ways of knowing in addition to science. Drawing on the rich knowledge of Indigenous Peoples is key. However, simply putting Indigenous knowledge into science or mainstream frameworks falls short of the goals of stepping into reconciliation and the need to step outside the parameters of science. Moreover, there is a meshwork of geo-polity, nation-making and building, among other aspects, that contribute to the colonial context in Canada that may inhibit opportunities for respectful weaving of Indigenous knowledge systems with multiples ways of knowing.

Given all of this, how can respectful weaving of disparate knowledge systems occur? This section explores the intersections of Indigenous Peoples Ways of Knowing that includes vital Traditional Knowledge (TK) important to address impacts associated with climate change. It sets out a critical pathway to understanding culturally appropriate methodologies and Indigenous-led approaches necessary to understand complexities and address gaps in knowledge, policy, and practice.

Weaving Indigenous Knowledge and Multiple Ways of Knowing

To begin we recognize, through Ethical Space that Indigenous oral systems and western written systems represent disparate worldviews (Ermine, 2007). In addition, that each have equal weight and through Ethical space, one is not subsumed into the other but viewed in parallel (Crowshoe & Littlechild, 2020). Dr. Reg Crowshoe, Blackfoot Elder, emphasizes that **Ethical Space Dialogue** is an important step for reconciliation towards equitable and just outcomes for Indigenous Peoples. In addition, the concept of ethical space is complimentary to the Mi'kmaq notion of Two-eyed Seeing (Marshall et al, 2015, Bartlett et al, 2015, Bartlett et al, 2012). As Mi'kmaq Elder Albert Marshall shares that, **Two-Eyed Seeing - Etuaptmumk** is: "To see from one eye with the strengths of Indigenous ways of knowing, and to see from the other eye with the strengths of Western ways of knowing, and to use both of these eyes together" (Bartlett et al, 2012, p. 335). He further illustrates the importance of co-learning journey.

In a similar fashion, these Indigenous concepts recognize the need to address critical Issues from both an Indigenous and western lens, towards actions and solutions. Not unlike Ethical Space and Two-eyed Seeing, **Braiding Sweetgrass** offers Insight to how we may further respectfully weave Indigenous and western ways of knowing. Through the use of analogy, Dr. Kimmerer a Potawatami Scholar describes the process of: planting, tending, picking, braiding and burning sweetgrass that support respectful weaving of knowledge systems and multiple ways of knowing, including other-than-human worldviews (Kimmerer, 2015). For example, culturally important, iconic and keystone species have an important view that also needs to be considered. In other words, if the land could speak, what concerns do you think would arise? Depending on the worldview, responses may vary, but there may also be stark contrasts.

Our languages are encoded on the landscape.

(Goodchild in Paikin, 2018)

Approaches such as science that consider culture and ecology as binaries, typically bifurcate and isolate processes *ad infinitum.* This may include, among other things, climate adaption, risk and recovery regimes; expressed as dichotomies or dualistic approaches. Taken from an Indigenous worldview that is rooted in oral customs, the separation of culture and ecology or humans and nature, does not occur. It is increasingly recognized that linguistic diversity and rich biologically diverse ecosystems highly correlate. As Melanie Goodchild, NASA's Indigenous Scientist explains, "our languages are encoded on the landscape", conveyed through Indigenous norms and narratives (Goodchild in Paikin, 2018).

There is increasing recognition that linguistic diversity and rich biologically diverse ecosystems highly correlate. Protecting the voices of Indigenous Peoples, whose cultures are founded upon lands, water, and wildlife, results in the preservation of the entire social and ecological landscape upon which all people depend (Davidson-Hunt et al, 2012). Place-based knowing, as Indigenous scholar Cutcha Risling-Baldy describes, are seasonal connections to land, including the practice of "Gathering" (Ingold 1996), which she conveys through the context of Biocultural Diversity (Risling Baldy, 2012). For Indigenous societies, epistemologies and worldviews, *Gathering* is about revitalization and continuing the interrelationships that go back in time and that have been built through cultural and spiritual interaction with the land. Indigenous Peoples do not separate themselves from the environment. A concept captured by the notion of Biocultural Diversity (Maffi 2014).

Reconciliation with Indigenous Peoples and the Crown requires our collective reconciliation with the Earth.

The Truth and Reconciliation Commission Report (TRCC, 2015) calls on various levels of government in Canada, including municipalities, to actively step into reconciliation, and The City of Calgary is committed to putting reconciliation into **Action**. In response to the TRC Principles and Calls to Action, The City of Calgary along with the Calgary Aboriginal Urban Affairs Committee (CAUAC) developed the White Goose Flying Report and the Indigenous Policy Framework (IPF) to support implementation across the various Business Units throughout The Corporation. Engaging Indigenous Peoples on policies and plans at the earliest stages as recommended by the IPF includes a holistic, systems-based approach. Working towards equitable environments, rooted in the unique perspectives and concerns from communities, listening to commonalities, and actively addressing concerns, supports The City of Calgary's commitment to reconciliation.

As Cameron (2012) articulates: "Climate change itself… is thoroughly tied to colonial practices, both historically and in the present, insofar as greenhouse gas production over the last two centuries hinged on the dispossession of indigenous lands and resources." In other words, the economic factors driving resource extraction form the same root causes associated with colonization of Indigenous Peoples lands and resources. Indeed, adaptation to impacts of climate related vulnerability, risk and resilience cannot be detached from the context of colonialism (Norton-smith et al. 2016). There is a call to decolonize climate policy, notwithstanding the meshwork of geopolitical relationships, nation-making and building, among other aspects that contribute to the colonial context in Canada. Taken together, significantly inhibit opportunities for respectful weaving of Indigenous knowledge systems with multiples ways of knowing.

For some, it is a matter of taking action such as the Indigenous Climate Action Network that aims to decolonize

climate policy while supporting Indigenous-led solutions, among other actions (Indigenous Climate Action Network, 2021). This makes sense, given that Indigenous Peoples have been sounding the alarm bells regarding our current climate situation for several decades. We have not moved the needle on addressing the disparities of colonialism and industrialization insofar as the two are deeply rooted in the same causes.

This common ground, or common root, allows us to address and act in reconciliation when it comes to climate change and Indigenous Peoples, not as separate actions but inextricably linked. Taking the root causes along with the notion of sustainability, its inception and impetus points to what the most recent climate reports indicate: decades of inaction and lack of leadership have led to our current climate situation. Thus, "reconciliation between Indigenous Peoples and the Crown *requires* our collective reconciliation with the earth" (Borrows, 2018).

Ethical Space Dialogue and Climate Tables

Increasingly, Ethical Space is being used by academics, researchers, policymakers, and practitioners across multiple disciplines and sectors (Ermine, 2004; Crowshoe, 2014; Indigenous Circle of Experts (ICE), 2018; National Advisory Panel (NAP), 2017; Pan-Canadian Framework on Climate Change (PCFCC), 2017; among others). Given the disparate worldviews of Indigenous and western ways of knowing, Ethical Space becomes a collective agreement to base conversations in truth and honor the fiduciary relationship between Indigenous Peoples and the Crown (ICE, 2018), despite perceived differences and lends itself to a reconciliation process by recognizing our collective colonial past. Moreover, it is in alignment with the Delgamuukw decision (Lamer et al, 1997) that was based on oral testimony, where Chief Justice Lamer emphasized the need for courts to come to terms with oral customs. Ethical Space, in many ways is about coming to terms with Indigenous Knowledge Systems and Traditional Ecological Knowledge (TEK).

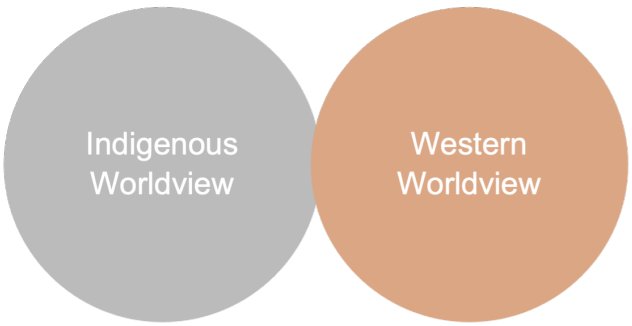

Figure 1. Ethical Space — spheres supporting shared values from disparate worldview and knowledge systems working in parallel

Figure 1 illustrates the importance of distinguishing between knowledge systems and worldviews and co-creating common ground through shared values and principles (Fox and Hatcher, 2020). Differing from Ermine's approach, in which the spheres do not include an overlapping space, rather an interstitial space (2004), the principles remain the same. There needs to be a recognition and respect, i.e., coming to terms with, Indigenous oral customs along with textual nuances. Policies, relying on written-western systems, may inadvertently exclude Indigenous People. According to oral customs, knowledge is living, and past down through stories, ceremonies,

songs and practices (Lamer et al, 1997). The inherent rights of Indigenous Peoples stem from unique and distinct oral customs.

The Pan-Canadian Framework for Clean Growth and Climate reported in its third annual report that, three Climate Tables have become established with a distinctions-based approach and have adopted Ethical Space dialogue to guide conversations with First Nation, Inuit, and Métis Climate Tables. While there is much critique regarding the aspirational aspects of Indigenous inclusion cited in the framework, these Climate Tables offer a way forward that supports diversity among Indigenous peoples. There are over 650 First Nations in Canada alone, one table is not sufficient. Local solutions and actions are needed to further inform the national climate tables with clear linkages.

Under the Pan-Canadian Framework, Indigenous Peoples have also identified the need to incorporate Indigenous Traditional Knowledge and culture into building designs**.** Indigenous procurement can play a key role in putting reconciliation into climate action keeping in mind the principles of Ethical Space Dialogue.

Indigenous Peoples protect over 80% of the world's biodiversity.

(UNEP, 2017)

Another example of applied Ethical Space is by the Indigenous Circle of Experts (ICE) and the National Advisory Panel (NAP) that set out a pathway to meeting Canada's biodiversity commitments. Following-up from the ICE report, the Conservation through Reconciliation Partnership (CRP) implemented key recommendations from ICE including developing an Ethical Space Knowledge Stream (one of six streams, led by Danika Littlechild) to support Indigenous Protected and Conserved Areas (IPCA) creation and enhancement in Canada. IPCAs and other lands governed by Indigenous Peoples contribute to over 80% of the world's biodiversity yet comprise less than five percent of the population (UNEP, 2017). These rich biodiverse ecosystems and cultural systems are inextricably linked and for important carbon sinks vital for sequestration. From an Indigenous worldview, on-going practice of culture results in intact ecosystems, biodiversity and climate resiliency.

It makes sense to protect the connection Indigenous Peoples have to the land, contained within oral customs, for all Canadians, including Calgarians, not only to meet emissions targets but to truly put reconciliation into climate action. The connectivity between culture and ecosystems are the basis of Indigenous traditional and contemporary knowledge and the notion of Biocultural Diversity concepts. From an Indigenous "Biocultural" lens, humans are not separate from the surrounding environment. Indigenous communities have in-depth teachings and methodologies to support balanced and dynamic reciprocal relationships with all living (animate) and non-living (inanimate) beings. How can we learn from Indigenous Peoples and their knowledge to support respectful weaving with mainstream science and policy?

Stabilizing the climate and reversing biodiversity loss are interdependent; we cannot achieve one goal without accomplishing the other (Dinerstein 2020). Moreover, as Dinerstein et al note, this must be accomplished in the next decade, full stop. Global Safety Net through spatial frameworks support multilateral, national and subnational land use planning efforts with the goal of overcoming climate change through restoring natural systems. Their research indicates that supporting Indigenous communities is critical, noting that "…addressing Indigenous land claims, upholding existing land tenure rights and resourcing programs on Indigenous -managed lands could help achieve biodiversity objectives..." (Dinerstein *In* Climate Academy by Grounded 2020).

The next section considers closing the gaps in knowledge, policy and practice, towards weaving meaningful actions and strategies, through common ground. We are all in this together….and….We are all here to stay.

Gaps in Knowledge and Policy

Several instruments and agreements associated with climate action point to the importance of Indigenous Knowledge (Climate Tables, IPCC, UNFCC), yet there remains a lack of understanding at the local level especially for policy makers. Several authors note that the limited available information, including gaps in knowledge, pose a number of constraints (Brugnach et al 2014; Norton-smith et al. 2016; and Cameron 2012, among others). A critical knowledge gap in climate research and policy regards the health sector (Hayes and Poland 2018). More research is needed to understand the links between health and well-being and climate extremes such as floods, fires and pandemics, less is known about mental health impacts, and far less regarding holistic impacts to First Nations (Yellow Old Woman-Munroe et al, 2021). In addition, researchers are calling for policy makers and decision makers to draw attention to the links between vector-borne and zoonotic diseases, including pandemics such as COVID-19, and climate change.

Society, having been through a series of lock-downs and mitigation measures through the COVID-19 pandemic, including extreme weather events, are experiencing long periods of isolation and vulnerability, and we may not know the impacts for some time. Education and health authorities are also drawing correlations between mental health and wellbeing of young people. Social distancing and increased social media are likely to have far reaching impacts. It is a long road ahead and with current states of knowledge, more attention in terms of climate and health correlations, in particular psychosocial well-being (Hayes and Poland, 2018), are imperative.

Here, we provide context for understanding the root causes of human induced climate change and explore critical themes temporally across five decades beginning in the 1970s with the "Energy Crises" up to the current "Climate Crises" (see **Table 1**). Table 1 is not exhaustive but begins to provide a sense of complexity and the need to ground important work in shared understandings. Sustainability is a key notion and we incorporate it as means to understand the underlying and underpinning common root causes of colonization and anthropogenic climate change.

1970s Energy Crises	1980s Environmental Crises	1990s Constitutional Crises	2000s Economic Crises	2010s Socio-Political Crises	2020 Climate Crises
Scarcity Fossil fuel domestic dependence and development – post Cost War Coal, Crude Migratory Birds Convention (1973) **Royal Commission - Mackenzie Valley Pipeline - Berger Inquiry (1977):** For the first time, environmental and aboriginal organizations received funding to present their own expert witnesses at the Formal hearings held in Yellowknife. Across the land of the Inuvialuit and Dene peoples of the Northwest Territories The Red Paper – A response to Canada's White Paper 1969 Quebec Native Women was founded in 1974 - fight Gender discrimination in the Indian Act Illegal pass system lifted (implemented in 1885) **Aboriginal Case Law:** Calder 1973 (prior to this, Indigenous Peoples were illegally denied legal representation in court; Aboriginal Rights ignored up to this point)	**Constitution of Canada – 1982** **Entrenched existing Aboriginal and Treaty Rights** First Nations, Inuit and Metis Peoples Declaration – Section 17, 25 & 35 Constitutional Conferences 1985-87 Dancing Around the Table –NFB Documentary *Push back from First Ministers on implementation* *Lacked necessary resources, led to many court case* **Sustainability** **Brundtland Commission Report (1985):** Balance Triple Crises: Energy Crises Environment Crises Poverty Crisis Bill C-31 1985 – Gender Equity in Indian Act **Aboriginal Case Law** Guerin 1984 Reconciliation with pre-existing "inherent rights" of Aboriginal Peoples	**Environmental Legislation** Oilsands innovation, Bitumen extractions Canadian Environmental Assessment Act – CEAA 1995 Section 16: May consider Traditional Ecological Knowledge (TEK) Informed by Berger Inquiry Recognition of Sec. 35; lack of engagement/ consultation **Charlottetown Accord 1992** **Royal Commission Report on Aboriginal Peoples (RCAP) 1996** **Aboriginal Case Law** Sparrow 1990 Sioui 1990 Badger 1996 Van der Peet 1996 Delgamuukw 1998 Marshall 1999	Alberta Environmental Protection and Enhancement Act EPEA 2000 Canada's Species at Risk Act SARA 2005 **MPMO – Major Projects Management Office** launched 2007 **Alberta Aboriginal consultation Office 2008** Housing / Market crash 2008 Residential School Apology 2008 UNDRIP (2007) Canada and US did not sign on until next decade **Joint Oilsands Monitoring** **Pipelines:** Kinder Morgan Canada 2005 100% Ownership of transmountain from Conoco Keystone XL 2008 Enbridge Northern Gateway pipeline 2008 from Alberta to Kitimat, BC TransCanada 2009	Federal Omnibus Bill 2012 CEAA 2012 Idle No More 2012 UNDRIP 2014 Canada & US Become signatories **OPEC** increase production 2014 Oil prices drop from $100 to just over $50/barrel Initially expected to recover after one or two fiscal quarters Ukraine invasion begins Alberta Environmental Monitoring, Evaluation and Reporting Agency AEMERA 2015 Focus on Cumulative Effects take over oilsands monitoring Indigenous Peoples Statements of Concern (SoCs) Ceased 2015 Truth and Reconciliation Commission Report, **TRCC 2015** CEAA 2015 **Pipelines:** Kinder Morgan Canada 2012: Transmountain extension proposed Energy East 2013 (diluted bitumen) Cancelled Enbridge Northern Gateway pipeline *Cancelled 2016* profound challenges for Indigenous rights and ecological justice. Significant increase in Greenhouse Gas GHG emissions Canadian Energy Regulator Act, 2019 Bill C-68, C-69, CER –replaces National Energy Board Act Review of **MPMO** role/responsibility (2019) Report MMIWG – Reclaiming Power and Place 2019 Findings include calls to action related to Resource Industry workcamps – transient worker related incidents Beginning of COVID-19 Pandemic	COVID 19 – spanning 2020-2021 Climate Change – Human Induced –unprecedented disasters fire, flood, drought, food systems shortages and disruptions to supply chains Species extinction – unprecedented rates Pipeline protests over transmountain AB legislation to prohibit infrastructure peaceful protesting Not unlike federal measures to bring Truckers Convoy protests to a halt Ukraine invasion escalates from east into areas concentrated with oil reserves and infrastructure and water supply Sanctions – Price of oil rapid increase to >$100/ barrel May 2021 – Unmarked Graves Over 9000 children buried –doesn't include the known/marked In the 150 years of residential institutions, 150 000 Indigenous children attended approximately 150 schools Bill C-15 – June 2021 Implement UNDRIP in Canada **Aboriginal Case Law** *Tsilhqot'in Nation* 2014 Blackstock 2022 Settlement $40 million Indigenous children in child welfare facing discrimination and inequities

Table 1. Climate Crises (see full table in Appendix B)

Sustainability, as outlined by the Brundtland Commission Report in 1987 is needed to address the interlocking crises of 1) environment, 2) development and 3) energy. The Brundtland Commission stressed protection of Indigenous Peoples, recognition of traditional rights and given a decisive voice in formulating policies about resource development in their areas (Brundtland, 1987, II. Policy Directions: Paragraph 46). And learning from their connection to the environment to support harmony and sustainability. This is echoed by numerous international and domestic reports and commissions (eg. UNDRIP, UNFCC, IPCC, Berger, RCAP, TRC, MMIWG Final Report) including Section 35 of the Canadian Constitution, that recognizes, affirms and entrenches pre-Canadian sovereignty inherent, Aboriginal and Treaty rights to: self-government, self-determination, and self-sufficiency.

Unfortunately, as Table 1 outlines, Aboriginal jurisprudence from 1970 to present indicates that the rights of Indigenous Peoples were either ignored or infringed and recognized only when asserted through the courts. And there is a need for dialogue at the local level to better understand rights-based approaches and negotiate rather than litigate the need to reconcile the rights of Indigenous Peoples in alignment with the constitution. Moreover, the presence of an abundance of case law indicates that rather than respecting the rights of Indigenous Peoples, they have been significantly watered down. Similarly, so has the notion of sustainability.

Drawing your attention to Table 1, here we list the contradictory approach taken here in Canada to sustainability. High-level themes throughout each decade point to a particular crises and arguably, the separation of Indigenous rights and development. The list below each decade highlights relevant and key economic, environmental, and energy references including Crown-Indigenous relations. Instead of going over each, the remainder of this section discusses key points at a high-level and is not intended to be exhaustive. The key point to takeaway is the timeline to demonstrate the complexity and landscape of Indigenous rights in Canada.

Here in Canada, when the call to sustainability was outlined in the Brundtland Commission Report (1987), the Constitutional Conferences were taking place (1985–86). Negotiations were characterized as Dancing around the Table resulting from the asserting of inherent rights, but not as a sign of *good faith*. Similarly, when the Inter-governmental Panel on Climate Change (IPCC) released its flag to humanity in August, 2021, the United Nations Secretary General also released a statement concerning the on-going deep resistance to recognizing and respecting the rights of Indigenous Peoples (United Nations, 2021). Since the 70s, we have not moved the dial on addressing the interlocking crises and have, through in-action, created a multiplicity of crises.

We have not achieved sustainability targets, so how will we meet emissions reductions targets. The connection to Indigenous rights and the inherent responsibilities are fundamental. Indigenous Peoples do not separate themselves from the environment. A concept captured by the notion of Biocultural Diversity (Berkes 1999). This old ethic of connectivity to the surroundings through sacred relationships and natural laws is what the Brundtland Commission Report urged humanity to consider in terms of sustainability. The inextricable linkages between cultures and ecosystems cannot be separated and these inextricable linkages cannot be watered down.

There have been numerous studies that have been carried out aimed at integrating traditional knowledge, or TEK, primarily in the upstream oil and gas regulatory process. As early as the Mackenzie Pipeline in the 1970s, Indigenous communities have often clashed with domestic responses to the energy crises (Berger 1977). The 1990s brought in federal environmental legislation, the Canadian Environmental Assessment Act (CEAA 1997) including consideration of Traditional Ecological Knowledge (TEK) and Aboriginal case-law such as the Delgamuukw Decision (1997), among others. The decision by Chief Justice Lamer recognized, among other things, Elder testimony as equal weight in the courts.

The Government of Canada's *Indigenous Knowledge Policy Framework for Proposed Project Reviews and Regulatory Decisions* draws on a few decades of experience with environmental legislation and TEK. As discussed in this review, there are tendencies to water down concepts that do not typically align with conventional approaches. From the Brundtland Commission Report urging humanity to move towards sustainability, to current models, Indigenous Knowledge, taken separately from knowledge holders and place, TEK, becomes watered down. The recent Indigenous Knowledge Policy Framework attached to Bill C-68 and C-69 may not go far enough in terms of utilizing several decades of Statements of Concern.

The Brundtland Commission report, called for the recognition of rights and a decisive voice for Indigenous Peoples, For some communities, the feeling is as though they have not been heard, and worse, some feel as though they have been researched to death. Leaders like Norma Kassi, from Fort Good Hope, have said enough is enough, "nothing about us, without us" and, along with others including the Assembly of First Nations (AFN), have developed the OCAP© Principles to guide community-based and Indigenous-led research.

Ownership, Control, Access and Possession are fundamental aspects to knowledge gathering, interpretation and mobilization. Grounded in Free Prior and Informed Consent (FPIC), OCAP offers a mechanism towards ensuring that research is by, for and with Indigenous Peoples, not just about Indigenous knowledge. Some authors add that in addition to FPIC, one must also apply the Precautionary Principle if we are to move the dial on climate solutions given that Indigenous peoples bare the brunt of climate impacts.

B. Ways of Engaging

The implications of climate impacts with respect to vulnerabilities of Indigenous communities are multi-faceted and there remain gaps in knowledge and best practices. Indigenous Peoples already face inadequate housing, access to healthcare and safe secure drinking water. These barriers and constraints will only become exacerbated by accelerated impacts of human-induced climate change.

Authors, including Brugnach et al (2014) assert that involving Indigenous Peoples in the development of mitigation measures for climate change pose a) procedural, b) conceptual and c) structural challenges including issues of: scale, knowledge and power. Similarly, Williams (2012) argues that understanding and addressing fully the i) cultural, ii) spiritual, iii) economic, and iv) legal implications related to the impacts of climate change requires oversight. Moreover, others are asserting cultural safety and indigenous-led methodologies by exercising their rights in relation to sovereignty (Yellow Old Woman et al. 2013).

This section looks at three case studies to inform common challenges that may arise at scale as well as Indigenous innovations and sustainable solutions. The first case study looks at the Siksika-led Recovery Strategy that draws on Indigenous methodologies to provide culturally safe recovery efforts following the flood of 2013 (Yellow Old Woman-Munroe et al, 2021). The second case study comes from a policy analysis perspective combining analytical and Indigenous approaches to support foundations for sustainable solutions to climate policy (Reed et al, 2021). The third case study focuses on the efforts by grassroots organizations towards Indigenous leadership on climate action. These case studies comprise cross-cutting and multi-scaler issues, as well as opportunities, and interestingly but not surprisingly, each arrive at the protection and practice of Indigenous rights as central.

Figure 2. Cross-cutting and intersectionality of Indigenous Peoples and Climate Change, developed by Fox and Hatcher

Cross-cutting and Multi-scalar Climate Issues, Constraints and Opportunities: Case Study Review

Case Study I: Siksika - Risk, Recovery, and Resilience

Unnatural Disasters, the Siksika-led case study grounded in Indigenous methodologies and cultural safety, explored climate displacement with respect to colonial land dispossession and disaster evacuations through a holistic approach that included the: a) Physical, b) Mental, c) Cultural, and d) Spiritual aspects of recovery (Yellow Old Woman-Munro et al, 2021). The authors point to the Intergovernmental Panel on Climate Change (IPCC) projections including increased risks over the coming decades further driven by non-climatic factors including social, economical, cultural, political, and institutional inequities (IPCC, 2014). The authors recommend that drawing on the rights and sovereignty of the First Nation towards disaster response and emergency planning can reduce harm and promote healing in a culturally safe environment; rather than perpetuating vulnerabilities and inequities.

Authors Yellow Old Woman-Munro, Yumagulova, and Dicken (2021) point out that increased severity and occurrence framed as "natural disasters" does not go far enough when considering the social determinants of risk for Indigenous Peoples relative to: i) colonialism, ii) land dispossession and iii) climate displacement. Framed as an epistemic and existential crisis, Indigenous Peoples disproportionately bare the brunt of these often cumulative and cascading impacts (Shafrill et al, 2020; Ramos-Castillo et al, 2017). Resulting in further disparities, inequities and injustices.

Case Study II: Policy Analysis

This study looked at two climate policies, i) ZéN Road Map and ii) Pan-Canadian Framework. The authors developed a critical policy analysis framework, based on the concept of sustainable self-determination to examine the various dimensions of each climate plan. The authors (Reed et al, 2021) did this by focusing on different components of Indigenous self-determination, mainly inherent, Treaty, and constitutionally protected rights, Indigenous Knowledge systems; and Indigenous participation. The study found that both climate policies were *aspirational* with respect to Indigenous Peoples and *ambitious* with respect to emissions targets (Reed et al, 2021).

The authors draw on the notion of sustainable self-determination. A concept referring to both an individual and community-driven process that ensures "…Indigenous livelihoods, food security, community governance, relationships to homelands and the natural world, and ceremonial life can be practiced today locally and regionally, thus enabling the transmission of these traditions and practices to future generations" (Corntassel, in Reed et al, 2021). This approach includes de-centring the state, and refocussing the discussion on the cultural, social, and political mobilization of Indigenous People and further aligns well with the Intersectionality-Based Policy Analysis (IBPA) Framework. The IPBA seeks to critique and develop policy in such ways as to contribute to *transforming the inequitable relations of power* that maintain inequality, as well as the *complex contexts and root causes* of the social problems that the given policies aim to address (Wiebe, in Reed et al, 2021).

The framework analysis included considering the inherent, Treaty, and constitutionally protected nature of Indigenous rights, including section 35 of the Canadian Constitution and minimum standards affirmed in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Building on the rights- based framework, the authors considered the recommendations stemming from the Truth and Reconciliation Commission (TRC), the Royal Commission on Aboriginal Peoples (RCAP), and Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG). Noting that these recommendations offer important insights for understanding the *root causes* driving the climate crisis and the ways in which Indigenous peoples disproportionately bare the brunt of impacts.

Case Study III: Grassroots Leadership

This case study explored the journey of an Indigenous-led grassroots initiative in the Grand River Territory within southern Ontario, which falls under what has been designated a "crisis ecoregion," of the Lake Erie Lowland (Kraus & Hebb, 2020). Through three stories that describe the fostering of distinct relationships within the Wisahkotewinowak collective (Wisahkotewinowak, 2021), an urban Indigenous food sovereignty initiative, we illustrate how Indigenous leadership can enhance community efforts to transform our shared social spaces, built environments and ecological climates by:

1. finding Land use opportunities in natural urban places;
2. imagining and creating place for Land-based learning;
3. building and mobilizing community to enhance local biodiversity and social adaptations (Viswanathan, 2020); and,
4. enhancing Indigenous food sovereignty practices towards community wellbeing.

The author argues that these evolving relationships have integrated processes that are fundamental to robust and meaningful climate action, both in terms of centring Indigenous ways of caring for the Land as well as advancing the Truth and Reconciliation Commission's Calls to Action through restoring Indigenous Peoples' relationships to Land and pathways to wellness.

The Truth and Reconciliation Commission of Canada explicitly calls for actions that close gaps in health equity, including food security (TRCC, 2015). Climate change impacts such as heat waves and extreme rain will affect local food systems and security, an important determinant of health, through food accessibility, distribution and food safety. Food security within diverse Indigenous contexts, however, should not be narrowly defined as having enough to eat or a sufficient house. Authors point to Indigenous law scholar John Borrows in which he contends that, "reconciliation between Indigenous Peoples and the Crown *requires* our collective reconciliation with the earth" (Borrows, 2018).

C. Ways of Building Relationships

The Truth and Reconciliation Commission Report (TRCC, 2015) calls on various levels of government in Canada, including municipalities, to actively step into reconciliation, and The City of Calgary is committed to putting reconciliation into **Action**. In response to the TRC Principles and Calls to Action, The City of Calgary along with the Calgary Aboriginal Urban Affairs Committee (CAUAC) developed the White Goose Flying Report and the Indigenous Policy Framework (IPF) to support implementation across the various Business Units throughout The Corporation. Engaging Indigenous Peoples on policies and plans at the earliest stages as recommended by the IPF includes a holistic, systems-based approach. Working towards equitable environments, rooted in relationships, the unique perspectives and concerns from communities, listening to commonalities, and actively addressing concerns, supports The City of Calgary's commitment to reconciliation.

The City's Indigenous Policy Framework (IPF) offers awareness and understandings based on the shared history and foundations of the territory that the City of Calgary is situated. Reading the document in its entirety, as recommended by the CAUAC, sheds light on the unique and distinct culture, language and history of each Treaty 7 First Nation including the Blackfoot Confederacy (Kainai, Piikani, and Siksika), Stoney Nakoda (Bearspaw, Chiniki, and Wesley) and Tsuut'ina Nation. In the spirit of *Truth and Reconciliation*, The City's IPF supports inclusion of Indigenous Peoples on matters of Traditional, Cultural and Contemporary significance at the earliest stages and throughout the life of City programs and policies. This section considers the intersections of engagement and relationships with Indigenous Peoples and Climate particularly in the Treaty 7 context.

Paulette Fox and Alexandra Hatcher (the Consultants) were engaged to lead on the development of this report, as well as facilitate sessions with staff from The City to support implementing **TRC Action #57** – **Professional Development and Training for Public Servants:**

> *"We call upon federal, provincial, territorial, and municipal governments to provide education to public servants on the history of Aboriginal peoples, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, Indigenous law, and Aboriginal–Crown relations. This will require skills based training in intercultural competency, conflict resolution, human rights, and anti-racism."* (TRCC, 2015).

The education process will be on-going and in addition to the Indigenous Relations Office (IRO) internal sessions for The Corporation. Our facilitated sessions utilize Ethical Space Dialogue as a form of practice. Notwithstanding limitations of pandemic restrictions, especially not being able to carry out discussions in person and/or on the land, the sessions offered staff an opportunity to step into Reconciliation and learn about Treaty 7 First Nations and urban Indigenous communities through place-based connections, including maps to highlight the unique shared history of *Moh'kinsstis,* including, in relation to linguistic diversity (see **Figures 3** and **4** below).

Figure 3. Alberta Treaty Map.

The Blackfoot Treaty No.7 - "between Her Majesty the Queen and the Blackfeet and other Indian Tribes", took place on September 22, 1877.

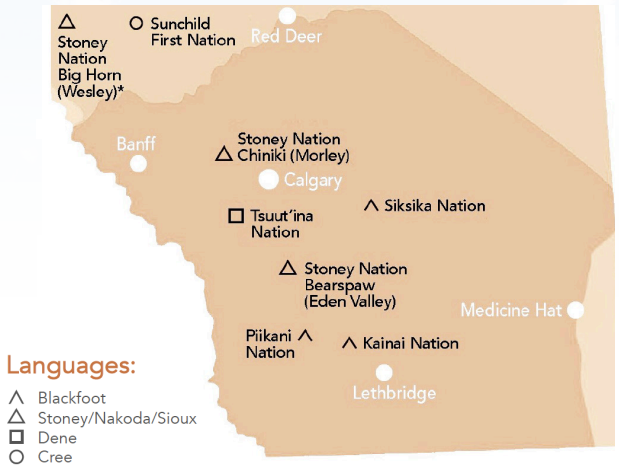

Figure 4. Languages in Treaty 7

Map source: Alberta Teachers Association, Walking Together, Education for Reconciliation. Detail from We Are All Treaty People Map.

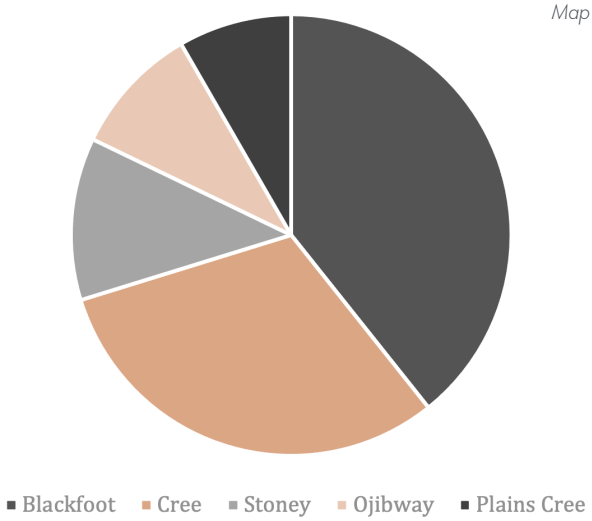

Figure 5. Indigenous Languages in Calgary, 2016 Census (City of Calgary, 2017)

Here in southern Alberta, in Treaty 7 for example, *The True Spirit and Intent of Treaty 7* (1996) draws on Elder Testimony along with archive material to support understandings rooted in the treaty relationship. In addition, the City of Calgary's Indigenous Policy Framework offers culturally relevant historical information. The city of Calgary, *Moh'kinsstis*, is now home to many First Nations, Inuit, and Métis Peoples that embody distinct cultures and speak diverse languages. The Aboriginal Languages in Canada, 2016 census (**Figure 5**) indicated that, among urban Indigenous Calgarians, approximately 33% spoke the Blackfoot language; followed by Cree (18%), Stoney (10%), and Ojibway (8%).

Addressing disparities, inequities and injustices related to climate action and/or lack of climate action need to come from a place of courage and shared values. Research points to Indigenous health and human dimensions of climate change and place-based dimensions of health by examining the role of environment for Inuit health in the context of a changing climate (Ford, 2012). Their review demonstrates the need for considering place meanings, culture, and socio-historical context to assess the complexity of climate change impacts on Indigenous environmental health. In the following map, I share briefly some of my research findings on Blackfoot Placenames and significant (sacred/archaeological) sites.

In **Figure 6**, Blackfoot Placenames and significant sites illustrate relationships in connectivity to Moh'kinsstis in the broader landscape. It is an example of Indigenous-led mapping research By, For, With and About Blackfoot People (Fox 2005). Intended to provide an overview of the complexity through pilot analysis, being limited by available data and information, and not representative of a comprehensive collection. Admittedly, it is biased to Blackfoot/*Niitsitapi* perspectives, inspired by the 1997 Supreme Court of Canada Delgamuukw Decision that recognized the importance of oral histories as having equal weight in the courts. The information is shared with the intention to support place-based learning along with Ethical Space dialogue. In other words, as a process for coming to terms with Indigenous oral histories.

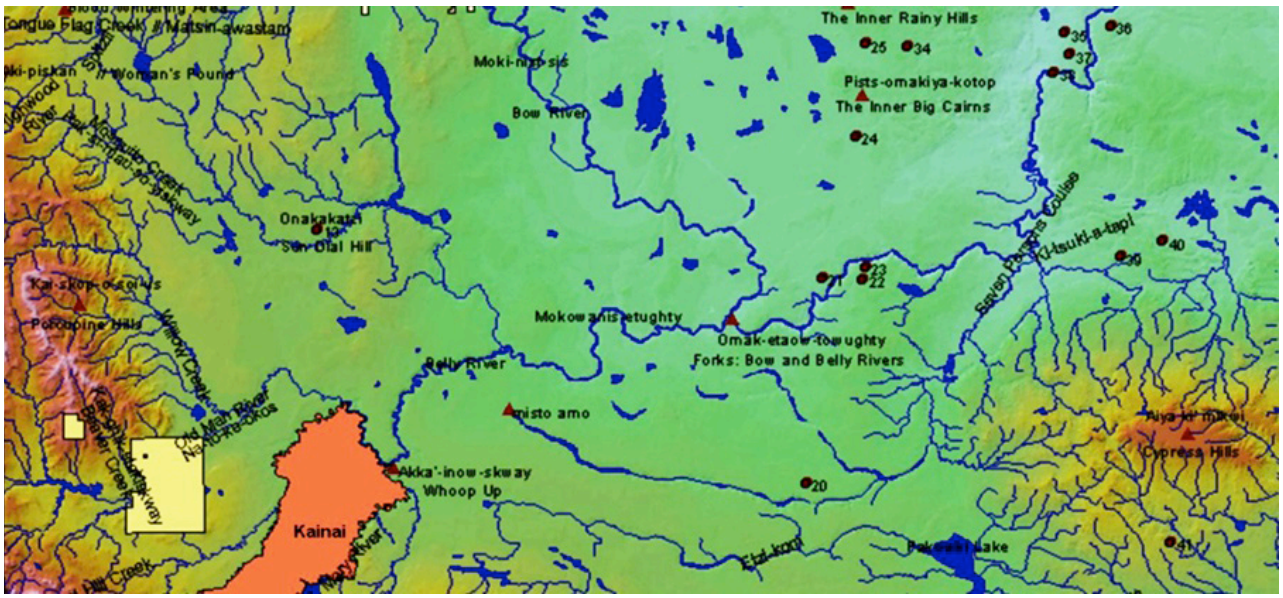

Figure 6. Blackfoot Placenames

Addressing climate impacts through an Indigenous lens supports inclusion of holistic principles often rooted in place. This is true for First Nations, Inuit, and Métis People both from Treaty 7 and within The City. Looking to the Siksika-led recovery strategy, each community will be unique and may have established their own plans (e.g., Amskapi Piikani Climate Adaptation Plan, 2018). Space for inclusion and recognition of Indigenous-led climate policy is imperative towards ensuring reconciliation and actionable results.

D. Ways toward Equitable Environments

In this final section, examples of alliances and coalitions locally and globally are highlighted stressing the importance of cross-sectorial partnerships and shared principles to drive actions and solutions to form the basis of recommendations and drawing on the literature and case studies to inform the City's climate strategy and action plans.

For the Climate Alliance, a coalition of local municipal governments based in the UK, one of their key principles is to be clear on definitions. Noting that, all too often, climate strategies are strong on targets but weak on instruments. Since there is no uniform definition of "net zero", the term can be misleading, as can the terms "carbon neutral" and "climate neutral". The Climate Alliance advises caution in the use of such terms as they can lead to instruments and policies that are based solely on large-scale solutions (technical sinks). They emphasize that a holistic approach is required to formulate sustainable solutions. A key stream of their work is partnering with Indigenous Peoples in the Amazon. The Climate Alliance states:

> *We need strong global partnerships to fight climate change and promote climate justice. It is therefore an important aspect of our work at Climate Alliance to build bridges between Indigenous communities and European municipalities. In addition to local climate action in Europe, we understand cooperation with the indigenous peoples of the Amazon region as the second pillar of our work.* (Climate Alliance, 2022).

And their principles for climate action include: Fair, Nature-based, Local, Resource Saving, and Diverse (Climate Alliance, 2022).

The Indigenous Climate Action Network as mentioned above, also emphasizes clarity and provides definitions to help frame their collective work surrounding decolonization with respect to climate policy. Like Case Study II above, the ICA conducted an IPBA of the Pan-Canadian Framework (PCF) and *A Healthy Environment and A Healthy Economy* (HEHE) (Environment and Climate Change Canada, 2020). Their results are not surprising similar to Reed et al. In Indigenous Climate Action's *Decolonizing Climate Policy in Canada: Phase 1 Report,* a detailed analysis of the PCF and HEHE are outlined. The authors offer a detailed summary, and in particular, the limitations of not addressing the root causes of our climate crises drawing on the inextricable linkages between economic growth and assimilation of Indigenous Peoples. They note that instead, each plan points to technical or technological oriented solutions.

The Turtle Lodge Indigenous Knowledge Centre convened the Onjisay Aki International Climate Summit in June, 2017 with both documentation and communication of knowledge shared at the summit through Indigenous-led, community-based research. Through incorporating an inter-epistemological approach using roundtable discussions within a ceremonial context and collaborative written and video methods. The Knowledge Keepers emphasized humanity's need to shift in values and behaviors. The understanding of climate change is a symptom of a much larger problem with how colonialism has altered the human condition thus the need for a new approach to engaging with Indigenous knowledge and climate research. Recognize that Indigenous traditional knowledge is not only a source of environmental observations but a wealth of values, philosophes and worldviews which can inform and guide action and research more broadly.

Summary, Conclusions and Recommendations

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) provides the minimum standard for ensuring cultures, languages and lands that people depend on continue to survive and thrive. Several studies point to UNDRIP along with other high-level instruments that may not appear readily applicable at the urban level. Working closely with local communities and urban Indigenous communities will support locally driven actions.

The City of Calgary's updates to the Climate Strategy and Action Plans and, in accordance with the Indigenous Policy Framework, should incorporate the "Four Ways Forward" to guide planning as well as implementation over the next five years. The four ways forward provide high-level guidance for Business Units to implement the recommendations based on the White Goose Flying Report (CAUAC, 2016). The White Goose Flying Report is The City's direct response to the principles, recommendations, and calls to action in the Truth and Reconciliation Commission of Canada Report (TRCC, 2015), and is used to guide The City of Calgary Council and Administration. For example, **TRC Call To Action #57:**

> **Professional Development and Training for Public Servants**
>
> *We call upon federal, provincial, territorial, and municipal governments to provide education to public servants on the history of Aboriginal peoples, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, Indigenous law, and Aboriginal–Crown relations. This will require skills- based training in intercultural competency, conflict resolution, human rights, and anti-racism.*

The TRCC is contextualized by UNDRIP (2007), and the Report of the Royal Commission on Aboriginal Peoples (1996). In 2021, Bill C-15 officially established a framework for implementing the UNDRIP into federal legislation and requires that **all levels** of government affirm those **rights** as protected by international human rights standards.

> On June 21, 2021, the *United Nations Declaration on the Rights of Indigenous Peoples Act* received Royal Assent and immediately came into force. This legislation advances the implementation of the Declaration as a key step in renewing the Government of Canada's relationship with Indigenous peoples. (Government of Canada, 2021).

Thematic Analysis and Synthesis: Literature Review and Case Studies

The following table demonstrates the various intersections that need to be considered from across the literature when answering the two questions: 1) How can The City's Climate Action Strategy and Action Plans respect, support, and use Indigenous Traditional Ecological Knowledge? and 2) How can The City engage Indigenous Peoples through Climate Action Strategy and Action Plans towards equitable and inclusive environments?

Cumulatively, there are nine aspects that authors provide:

Siksika-led Yellow Old Woman-Munro et al, 2021 :	Ugandan Berang-Ford et al, 2012 :	Intergovernmental Panel on Climate Change IPCC, 2016 :
Physical		
Mental		
Cultural	Cultural	Cultural
Spiritual	Spiritual	
	Legal	
	Economic	Economic
		Institutional
		Political
		Social

Indigenous holistic ways of knowing go beyond parameters of policy in western frameworks posing as inherent limitations to engaging with Indigenous Peoples and incorporating ways of knowing and traditional knowledge. Key themes emerging from the case studies and literature review point to the cross-cutting and multi-scalar components related to climate action. Ethical Space foundations provide opportunities for engagement and relations as well as inclusive and equitable environments moving forward in the spirit of reconciliation. A critical factor in recognizing Indigenous ways of knowing is the importance of the relationship with "place" through language.

The next and final section draws on the unique foundational aspects of Moh'kinsstis, in terms of connection to place for Blackfoot, Stoney, and Tsuut'ina First Nations. Additional information is required to understand the demographics of urban Indigenous communities.

Equitable Environments and Ethical Space Dialogue

Updates to The City of Calgary Climate Strategy and Action Plans provides an important opportunity to put reconciliation into climate action. Reconciliation begins with the land. Humankind is facing a pandemic and complexity is further driven by rapid decreases in biodiversity coupled with significant increases in the occurrence and severity of climate extremes, writ large. Linkages between our climate and the current COVID-19 pandemic are not well understood nor clearly conveyed to civil society. Early research suggests that pandemics will only increase in frequency along with wildfires, floods, and hurricanes, among other things. Risk and recovery planning are key tools to mitigating climate impacts as well as mechanisms to reduce GHG emissions relative to targets.

In the spirit of *Truth and Reconciliation*, The City's Indigenous Policy Framework supports inclusion of Indigenous Peoples on matters of Traditional, Cultural, and Contemporary significance at the earliest stages and throughout the life of city programs, policies, and projects by promoting: *i) Ways of Knowing, ii) Ways of Engaging, iii) Ways of Building Relationships* and *iv) Ways toward Equitable Environments.* These *Four Ways Forward,* rooted in the Principles and Calls to Action of the TRC, will continue to guide The City's implementation of Climate Strategy and Action Plans. To further ground this work, notions of Ethical Space through sustained dialogue can be supported through seasonal gatherings to enhance opportunities to put Reconciliation into Climate Action.

Also, consider engagement from a Distinctions-Based Approach, which would provide the opportunity to both be inclusive and involve all First Nations in Treaty 7, and respect the need for each First Nation to engage in discussion on issues that relate to their needs and concerns directly.

Science policy and practice have not adequately addressed the complexity of these interrelated issues, on the one hand. On the other hand, there is limited knowledge of Indigenous Philosophies, Governance and Laws that are holistic (ICE, 2018). Understandings remain buried and thus the need to implement the Truth and Reconciliation Calls to Action. Among the challenges and opportunities for Indigenous Peoples, including health and well-being (Hayes and Poland 2018; Berrang-Ford et al, 2012), food sovereignty and security (Brugnach et al, 2017) biodiversity and intact ecosystems, as well as overall climate justice, rights, and resiliency. All are connected.

Here we capture through a systems design, connectivity to Indigenous-led concepts that may help inform respectful weaving of knowledge systems to support policy that intersects with Indigenous Peoples. Meaningful holistic frameworks are needed that are truly Indigenous led to support actionable knowledge rooted in the Rights of Indigenous Peoples. In support of updates to The City's Climate Strategy and Action Plans that are in alignment with the TRCC, RCAP, and UNDRIP, the literature review asked two key questions. Moving forward, the following questions can help policy development that is mindful of local contexts, guided by The City of Calgary's Indigenous Policy Framework, with awareness and understandings through an iterative process:

1. **Ways of Knowing:** "Our ability to understand and act on our shared history and foundations at The City begins with our cross-cultural understanding and awareness of each other as Indigenous and non-Indigenous peoples" (IPF, page 39).
    a. Who are the: Blackfoot Confederacy, Stoney Nakoda Nations, and Tsuut'ina Nation?
    b. Where is the Métis Nation of Alberta Region 3 office?
    c. What Indigenous organizations are situated in the city?
    d. How can rights-based approaches support awareness and understandings?
2. **Ways of Engaging:** "Engagement with Indigenous communities requires unique processes, approaches, and understandings of worldviews in addition to mutual respect and trust. It is guided by principles, values, and protocols" (IPF, page 40).
    a. How can Indigenous Knowledge Systems, i.e., Ways of Seeing, Being, Knowing, and Doing provide insight as well as inform The City's Climate Strategy and Action Plan updates?
    b. What is Free Prior and Informed Consent (FPIC)?
    c. How does this relate to Climate Strategies and Action Plans?
3. **Ways of Building Relationships:** "The City of Calgary has a significant opportunity to build and sustain reciprocal relationships with Treaty 7 First Nations and urban Indigenous communities based on mutual respect and trust. Ways of building relationships are focused on strategically guiding The City to be authentic and reciprocal in how it goes about building and sustaining relationships with Treaty 7 First Nations and urban Indigenous communities." (IPF, page 41).
    a. What protocols and other guiding instruments do Blackfoot and Treaty 7 First Nation communities have that can support meaningful engagement?
    b. Similarly, what protocols and guidance do the Métis Nation of Alberta (MNA) Region 3 along with urban Indigenous communities have?
    c. How can the policy update support leadership-to-leadership opportunities to help drive actionable solutions?
4. **Ways toward Equitable Environments: "**Ways towards equitable environments strengthen the Indigenous Policy Framework's aim to sustain spaces of common ground that recognize and accept differing worldviews so that meaningful and constructive dialogue can occur between communities. Moving towards these spaces and shifting City culture will enable Indigenous communities to actively inform and shape planning, advising and decision-making on matters of significance to distinct Indigenous communities." (IPF, page 43).
    a. What Blackfoot, Stoney and Tsuut'ina First Nations, Inuit, and Métis People may be directly or indirectly affected by updates to the City's Climate Strategy?
    b. How have Indigenous Peoples, including their traditional practices and sites, been impacted by climate impacts including increased fire and flood?
    c. How have traditional practices informed GHG reduction in Alberta, Canada, and around the globe?
        i. How effective are these approaches? What are constraints and enablers?
        ii. What values, principles and protocols support success?
    d. What additional themes emerge from the literature?

Figure 7. Weaving Indigenous knowledge with multiple ways of knowing, adapted from concept of Braiding Sweetgrass (Adapted from Kimmerer, 2014).

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Key themes: Improving ways of understanding connections between Indigenous knowledge (climate-related narratives) and scientific data and analysis. Respectful and co-benefit opportunities. Inform climate science, adaptation and support indigenous peoples through development of tools to support enhanced community capacity. Leading up to IPCC AR5.

Anderson, C. (2021). *What are Indigenous knowledge systems — and how can they help fight climate change?* What are Indigenous knowledge systems — and how can they help fight climate change? | TVO.org

Among the challenges and opportunities for Indigenous Peoples, including health and well-being (Hayes and Poland 2018; Berrang-Ford *et al*, 2012), food sovereignty and security Brugnach et al, 2017) biodiversity and intact ecosystems, as well as overall climate justice, rights, and resiliency. All are connected.

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Key themes: 1) Vulnerability and empowerment 2) Vulnerability models 3) Strategies for dealing with climate change in collaboration with local community.

Brugnach, M. Craps, M., & A. Dewulf (2017). Including indigenous peoples in climate change mitigation: addressing issues of scale knowledge and power. *Climatic Change*, 140(1), 19–32. https://doi.org/10.1007/s10584-014-1280-3

Key themes: Conceptual framework to support inclusion of indigenous communities in policy and decision making process is Overcoming challenges through collaborative approaches to policy and decision making related to procedural, conceptual, and structural challenges. Focuses on issues of scale, knowledge and power, and how they interrelate to act as a barrier or opportunity for the involvement of indigenous groups. Including indigenous communities as valuable partners in climate change mitigation through multi scalar negotiations, blended knowledge and power sharing structures.

Cameron, L., Courchene, D., Ijaz, S., & I. Mauro (2021). A change of heart: indigenous perspectives from the Onjisay Aki Summit climate change. In: *Climate change*, V. 164(3-4):43-43. Springer Netherlands.

Indigenous-led, community-based research, with inter-epistemological approach using roundtable discussions within a ceremonial context and collaborative written and video methods. The Turtle Lodge Indigenous knowledge centre convened the Anjisay Aki International Climate Summit in June 2017 with both documentation and communication of knowledge shared at the summit. The Knowledge Keepers emphasized humanity's need to shift in values and behaviors. The understanding of climate change is a symptom of a much larger problem with how colonialism has altered the human condition thus the need for a new approach to engaging with Indigenous knowledge and climate research. Not only a source of environmental observations but a wealth of values philosophes and worldviews which can inform and guide action and research more broadly.

Climate Alliance, *Climate Alliance - Indigenous partners*; www.climatealliance.org/about-us/climate-action 9

We need strong global partnerships to fight climate change and promote climate justice. Based on the principle of "common but differentiated responsibility" in preserving the world's atmosphere and, thus, protecting the world's rainforests, cooperation and solidarity with as well as political support for indigenous rainforest peoples are important instruments. Coalition of municipal governments in the UK in collaboration with Indigenous Peoples from the Amazon and who depend on rainforest ecosystems. Clear values underpinning the work: Climate Alliance's principles are both a compass and a filter for implementing effective and sustainable climate action: Fair, Nature based, Local, Resource-saving, and Diverse. Since there is no uniform definition of "net zero", the term can be misleading, as can the terms "carbon neutral" and "climate neutral". A holistic approach is required to formulate sustainable solutions. Climate Alliance advises caution in the use of such terms as they can lead to instruments and policies that are based solely on large-scale solutions (technical sinks).

Durkalec, A. Furgal, C., Skinner, M.W. and T. Sheldon (2015). Climate change influences an environment as a determinant of indigenous health: relationships to place, sea ice, and health in an Inuit community. In *Social science & medicine*. V. 136-137: 17-26. Elsevier Ltd.

Key themes include indigenous Health and Human dimensions of climate change and place based dimensions of health by examining the role of environment for Inuit health in the context of a changing climate. Demonstrates the need of considering place meanings, culture, and socio-historical context to assess the complexity of climate change impacts on indigenous environmental health.

Hayes, K. & B. Poland (2018). Addressing mental health in a changing climate: incorporating mental health indicators into climate change and health vulnerability and adaptation assessments. In: *Int. J. Environ. Res. Public Health*.

Key themes: Focus on climate change and mental health can help enhance the understanding of factors that may enhance psychosocial resilience. Climate change related income insecurity food and water insecurity and conflict and displacement have implications for psychological as well as social wellness. A further consideration is that a holistic understanding of mental health often found with him indigenous ways of knowing include spiritual well being and connectedness to nature in one's environment.

Leggat Stewart, O. (2021). *Why the climate needs indigenous knowledge*. National | Why the climate needs Indigenous knowledge (nationalmagazine.ca)

Addressing the greatest challenge of our times has to be done through the lens of reconciliation. In coastal British Columbia, two cultural pillars are cedar and salmon, both threatened by climate change. Reconciliation demands vibrant and living Indigenous cultures. What value is the right to a ceremonial fishery, as recognized in *Sparrow*, if there are no salmon to catch? If they disappear, the country will take a step backwards, and reconciliation will be that much further away. Reconciliation requires an ambitious COP26.

Petzold, J., Andrews, N., Ford, J., Hedemann, C., & J.C. Postigo (2020). Indigenous knowledge on climate change adaptation: a global evidence map of academic literature. In *Environmental Research letters*, Vol. 15(11). Bristol: IOP Publishing

IPCC AR5 identified the necessity to consider different knowledge systems in climate change research however gaps in author experience and inconsistent assessment by the IPCC lead to a regionally heterogeneous and thematically generic coverage of the topic. Knowledge gaps include research in northern and central Africa, northern Asia, South America, Australia, urban areas, and adaptation through capacity building, as well as institutional and psychological adaptation. Supports the assessment of Indigenous knowledge in the IPCC AR6 and provides a basis for follow-up research.

Reed, G., Gobby, J., Sinclair, R., Ivey, R., and H. Damon Matthews (2021). Indigenizing Climate Policy in Canada: A Critical Examination of the Pan-Canadian Framework and the ZéN RoadMap. *In. Front. Sustain. Cities*, https://doi.org/10.3389/frsc.2021.644675

Intersectionality-Based Policy Analysis (IPBA) (Hankivsky 2012, Hankivsky and Jordan-Zachary) alignment with Corntassel (2012) intersectional approach of decentering state and refocussing conversation on i) cultural, ii) social, and iii) political mobilization of Indigenous Peoples. Authors developed a critical policy analysis framework, based on the concept of sustainable self-determination to examine the various dimensions of each climate plan. This included considering the inherent, Treaty, and constitutionally protected nature of Indigenous rights, drawing on the section 35 of the Canadian Constitution and minimum standards affirmed in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Building on the rights-based framework, the authors considered the recommendations stemming from the Truth and Reconciliation Commission (TRC), the Royal Commission on Aboriginal Peoples (RCAP), and Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls. Noting that these recommendations offer important insights for understanding the root causes driving the climate crisis and the disproportionate impacts facing Indigenous Peoples.

Williams, J. (2012). The impact of climate change on indigenous people – the implications for the cultural, spiritual, economic and legal rights of indigenous people. *The International Journal of Human Rights*, 16(4), 648–688. https://doi.org/10.1080/13642987.2011.632135

Key themes: Critically examines the impact of climate change on indigenous people the major historical philosophical and institutional limitations. Focus is on litigation and does not engage with issues of policy, mitigation and adaptation, from which in many cases Indigenous people have been largely excluded. Calls for development of an international court for human rights in an international court for the environment to prevent the destruction of the traditional homelands of indigenous people and the extinction of humanity's oldest people

Yellow Old Woman-Munro, D., Yumagulova, L., & E. Dicken (2021). Unnatural disasters: colonialism, climate displacement, and Indigenous sovereignty in Siksika Nation's disaster recovery efforts. In *Canadian Institute for Climate Choices*, Unnatural Disasters - Canadian Institute for Climate Choices

Case study, authors challenge the widely used notion of a "natural disaster." Argue that there is nothing "natural" about colonial land dispossession combined with anthropogenic climate change, in First Nation communities. Example of self-determination in the community-led, culturally safe response to disasters of the Dancing Deer Disaster Recovery Centre, a unique Siksika-led disaster recovery approach that addressed the physical, mental, cultural, and spiritual health needs of evacuees. Indigenous methodologies, holistic. Climate change is projected to continue to drive increased risks over the coming decades, risks that will be compounded by non-climatic factors such as social, economic, cultural, political, and institutional inequities (IPCC, 2016). It is important to understand how disaster response and emergency planning measures can play a role in reducing harm and promoting healing instead of perpetuating vulnerabilities and inequities.

Zentner, E., Kecinski, M., Letourneau, A., & D. Davidson (2019). Ignoring Indigenous peoples - climate change, oil development, and Indigenous rights clash in the Arctic National Wildlife Refuge. In *Climate change*, 355:333-344

Key themes: Tendency to marginalise the rights of indigenous peoples in US natural resource development planning moreover constitutes a missed opportunity for advancing development decisions toward more effective socio ecological planning in the context of climate change indigenous communities in the north are uniquely qualified both as sovereign peoples and as knowledge holders to enrich government policy and decision making about development in the context of climate change constituting strong justification for their involvement in the planning process.

APPENDIX A

The following support Frequently Asked Questions and draw from the City of Calgary Indigenous Policy Framework:

☐ MATTERS OF HISTORICAL, TRADITIONAL, AND CULTURAL SIGNIFICANCE:

- Genuine understandings, relationships, and opportunities with Treaty 7 First Nations will focus on listening, learning and acting on important matters of historical, traditional, and cultural significance as the **Siksika Nation, the Piikani Nation, the Kainai Nation, the Tsuut'ina Nation, and the Stoney Nakota Nations** have ongoing connections to the traditional territory that Calgary resides on, including the land, water, air and ecology.
- These connections flow from the ancestral footprints of these Nations in the territory that **extend past the making of Treaty 7 and the arrival of newcomers**.
- Determining these matters will be an ongoing process supported by **sustained dialogue networks and mutually beneficial relationships with all Treaty 7 First Nations, established by The City**.

☐ MATTERS OF CONTEMPORARY SIGNIFICANCE:

- Genuine understandings, relationships, and opportunities with Indigenous communities, including Treaty 7 First Nations and urban Indigenous communities (First Nations, Métis, and Inuit) will focus on listening, learning and acting on matters of contemporary significance within a modern environment.
- The diverse perspectives, identities, and lived experiences of urban Indigenous communities in Calgary can be better understood and acted on by The City.

Frequently Asked Questions:

1. WHAT DOES EQUITABLE ENVIRONMENTS MEAN?
   - Equitable environments means contexts which recognize and accept differing worldviews for meaningful and sustained dialogue to occur between Indigenous and non-Indigenous peoples so that constructs, matters and priorities associated with Indigenous communities are actively defined and shaped by Indigenous peoples on their own terms.
   - This type of process can assist in moving us towards common ground where opportunities for mutually beneficial relationships and co-operative activities are sustained.
2. WHAT ABOUT THE DUTY TO CONSULT?
   - The Indigenous Policy framework's systems-based approach intentionally does not speak in great detail to the Duty to Consult and subsequent consultations as these types of efforts that unfold on a project-by-project basis will occur separate and/or parallel to the policy guidance set out in the framework.
   - Procedural aspects of the Duty to Consult linked to federal and provincial regulatory requirements guided by Crown legislation may be delegated to The City of Calgary as a third party and these efforts will continue to occur separate and/or parallel to the Indigenous Policy Framework.
   - Ways forward through sustained dialogue and mutually beneficial relationships with Treaty 7 First Nations may enhance communication and knowledge at the City, which may provide the necessary foundations and understandings to assist in delegated aspects of the Duty to Consult being carried out.

APPENDIX B

Table 1. Climate Crises

1970s Energy Crises

Scarcity

Fossil fuel domestic dependence and development – post Cost War

- Coal, Crude

Migratory Birds Convention (1973)

Royal Commission - Mackenzie Valley Pipeline - Berger Inquiry (1977):

- For the first time, environmental and aboriginal organizations received funding to present their own expert witnesses at the Formal hearings held in Yellowknife.
- Across the land of the Inuvialuit and Dene peoples of the Northwest Territories

The Red Paper – A response to Canada's White Paper 1969

Quebec Native Women was founded in 1974 - fight Gender discrimination in the Indian Act

Illegal pass system lifted (implemented in 1885)

Aboriginal Case Law:

- Calder 1973
- (prior to this, Indigenous Peoples were illegally denied legal representation in court; Aboriginal Rights ignored up to this point)

1980s Environmental Crises

Constitution of Canada – 1982

- **Entrenched existing Aboriginal and Treaty Rights**
- First Nations, Inuit and Metis Peoples Declaration – Section 17, 25 & 35
- Constitutional Conferences 1985-87
  - Dancing Around the Table –NFB Documentary
  - *Push back from First Ministers on implementation*
  - *Lacked necessary resources, led to many court case*

Sustainability

- **Brundtland Commission Report (1985):**
- Balance Triple Crises:
- Energy Crises
- Environment Crises
- Poverty Crisis

Bill C-31 1985 – Gender Equity in Indian Act

Aboriginal Case Law

- Guerin 1984
  - Reconciliation with pre-existing "inherent rights" of Aboriginal Peoples

1990s Constitutional Crises

Environmental Legislation

Oilsands innovation, Bitumen extractions

Canadian Environmental Assessment Act – CEAA 1995

- Section 16: May consider Traditional Ecological Knowledge (TEK)
- Informed by Berger Inquiry
- Recognition of Sec. 35; lack of engagement/ consultation

Charlottetown Accord 1992

Royal Commission Report on Aboriginal Peoples (RCAP) 1996

Aboriginal Case Law

- Sparrow 1990
- Sioui 1990
- Badger 1996
- Van der Peet 1996
- Delgamuukw 1998
- Marshall 1999

2000s Economic Crises

Alberta Environmental Protection and Enhancement Act EPEA 2000

Canada's Species at Risk Act SARA 2005

MPMO – Major Projects Management Office launched 2007

Alberta Aboriginal consultation Office 2008

Housing / Market crash 2008

Residential School Apology 2008

UNDRIP (2007)

- Canada and US did not sign on until next decade

Joint Oilsands Monitoring

Pipelines:

- Kinder Morgan Canada 2005
  - 100% Ownership of transmountain from Conoco
- Keystone XL 2008
- Enbridge Northern Gateway pipeline 2008
  - from Alberta to Kitimat, BC
- TransCanada 2009

2010s Socio-Political Crises

Federal Omnibus Bill 2012

- CEAA 2012
- Idle No More 2012

UNDRIP 2014

- Canada & US Become signatories

OPEC increase production 2014

- Oil prices drop from $100 to just over $50/barrel
  - Initially expected to recover after one or two fiscal quarters
- Ukraine invasion begins

Alberta Environmental Monitoring, Evaluation and Reporting Agency AEMERA 2015

- Focus on Cumulative Effects take over oilsands monitoring
- Indigenous Peoples Statements of Concern (SoCs)
- Ceased 2015

Truth and Reconciliation Commission Report, **TRCC 2015**

CEAA 2015

Pipelines:

- Kinder Morgan Canada 2012: Transmountain extension proposed
- Energy East 2013 (diluted bitumen)
  - Cancelled
- Enbridge Northern Gateway pipeline *Cancelled 2016*
  - profound challenges for Indigenous rights and ecological justice.
  - Significant increase in Greenhouse Gas GHG emissions

Canadian Energy Regulator Act, 2019

- Bill C-68, C-69; CER –replaces National Energy Board Act

Review of **MPMO** role/responsibility (2019)

Report MMIWG – Reclaiming Power and Place 2019

- Findings include calls to action related to Resource Industry workcamps – transient worker related incidents

Beginning of COVID-19 Pandemic

2020 Climate Crises

COVID 19 – spanning 2020-2021

Climate Change – Human Induced –unprecedented disasters fire, flood, drought, food systems shortages and disruptions to supply chains

Species extinction – unprecedented rates

Pipeline protests over transmountain

AB legislation to prohibit infrastructure peaceful protesting

Not unlike federal measures to bring Truckers Convoy protests to a halt

Ukraine invasion escalates from east into areas concentrated with oil reserves and infrastructure and water supply

Sanctions – Price of oil rapid increase to >$100/ barrel

May 2021 – Unmarked Graves

- Over 9000 children buried –doesn't include the known/marked
- In the 150 years of residential institutions, 150 000 Indigenous children attended approximately 150 schools

Bill C-15 – June 2021

- Implement UNDRIP in Canada

Aboriginal Case Law

- *Tsilhqot'in Nation* 2014
- Blackstock 2022
  - Settlement 540 million Indigenous children in child welfare facing discrimination and inequities