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**Report to the Hearings of the Keeyask Generation Project  
Winnipeg, Manitoba**

**Topic: Sustainability and Sustainable Development**

**Presentation Date: December 2, 2013**

**Prepared for: Manitoba Wildlands**

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## Executive Summary

The Clean Environment Commission (CEC) has been instructed within the Terms of Reference to consider sustainable development. This report considers how the Sustainable Development Strategy for Manitoba, including the Principles and Guidelines, fits into the evolving broader context of sustainable development. The report offers a framework through which to evaluate the proponent's EIS against the provincial sustainable development legislation. The framework is a scale that has the following categories (from low end to high end): compliance, mitigation, sustainable project design, and sustainable development.

In addition to the framework, the EIS documents and the Joint Keeyask Development Agreement were searched for the terms 'sustainability' and 'sustainable development'. The frequency counts of the terms in each volume are presented, along with an analysis of which topics emerged. In addition, the Response to EIS Guidelines, Chapter 9: Sustainable Development was considered, and five weaknesses were identified.

The frequency counts found 74 instances where the term 'sustainability' is used and 74 instances where the term 'sustainable development' is used, for a combined total of 148 instances. Of these, 82 are in the Response to EIS Guidelines. The other instances are: 23 in the Socio-Economic Supporting Volume; 17 in the Terrestrial Environment Supporting Volume; 9 in the EIS Scoping Document; 7 in the Project Description Supporting Volume; 7 in the Aquatic Environment Supporting Volume; and 3 in the Physical Environment Supporting Volume.

No instances of either the term 'sustainability' or the term 'sustainable development' were found in the Joint Keeyask Development Agreement, which raises questions as to how core it really is to this project.

In terms of the topics that emerged: 58 of the instances were related to the environment (44 to sustainable wildlife plans and 14 to assessing, planning for and managing natural systems and resources); 36 of the instances were related to socio-economic topics (22 to aboriginal communities and 14 to the City of Thompson); 31 were related to the Keeyask Generation Project alignment with sustainable development; 13 were related to Manitoba Hydro's commitment to sustainable development; and 10 were used for signposting and introducing content.

The as a result of the weaknesses identified in the EIS based on the analysis of content in the Response to EIS Guidelines, Chapter 9: Sustainable Development, these five recommendations are offered:

1. The process should consider regional cumulative effects;
2. The EIS should include an assessment of all sustainability factors;
3. The social considerations need more attention;

4. The Keeyask Generation Project should also contribute to Thompson and Gillam's community sustainability; and
5. Plans for green procurement, green building design and waste management are needed.

In conclusion, this report is not intended as an evaluation of the EIS as a whole, or a judgement on the overall merits of the proposed undertaking; it is meant to help inform the CEC. Given the Terms of Reference, the hope is that this report will help the CEC to consider sustainable development from the provincial perspective and not just the project perspective, thus determining what is best for the region and the province.

# 1. Introduction

## 1.1. Overview

A proposal for the Keeyask Generation Project is now under formal review by the Clean Environment Commission (CEC). The key proponent is the Keeyask Hydropower Limited Partnership, and the main document under review is the Environmental Impact Statement (EIS).

The expectations for the hearings were set out in a November 14, 2012 document entitled “Terms of Reference, Clean Environment Commission, Keeyask Generation Project (the Project)”. The CEC has been instructed within the Terms of Reference to consider sustainable development. Specifically,

“The Commission’s recommendation shall incorporate, where appropriate, the Principles of Sustainable Development and Guidelines for Sustainable Development as contained in *Sustainable Development Strategy for Manitoba*.”

(Minister of Conservation and Water Stewardship, Manitoba, 2012, p. 3)

This report considers how the Sustainable Development Strategy for Manitoba, including the Principles and Guidelines, fits into the evolving broader context of sustainable development. The presentation offers a framework through which to evaluate the proponent’s EIS against the provincial sustainable development legislation. Note, that while the framework offers a lens to help the CEC to evaluate the Keeyask Generation Project, this report is not intended as an evaluation of the EIS as a whole, or a judgement on the overall merits of the proposed undertaking.

In addition to the framework that is presented, the EIS documents and the Joint Keeyask Development Agreement were searched for the terms ‘sustainability’ and ‘sustainable development’. The frequency counts of the terms in each volume are presented, along with an analysis of which topics that emerged. In addition, the Response to EIS Guidelines, Chapter 9: Sustainable Development was considered, and five weaknesses were identified.

## 1.2. Credentials of Dr. Amelia Clarke

This report is based on over twenty years of experience with sustainable development topics. Prior to becoming a professor, most of my work was in the non-profit sector, including three years as the President of Sierra Club Canada (from 2003-2006), and one year as an advisor to the Canadian delegation to the World Summit on Sustainable Development (2002). I started in 1989 as an environmentalist, and over time came to realize the importance of sustainable development. It is this involvement in sustainable development topics that led to my academic choices, including the decision to complete a PhD in business strategy. While my values are still highly informed by a deep respect for nature, I also believe that humans are a part of the ecological system and that we are capable of

designing our economic systems to be within ecological limits, and our social systems to enhance people's wellbeing. Our current trajectory is not sustainable, and thus a shift to sustainable development is necessary.

I am now a faculty member in the School of Environment, Enterprise and Development (SEED) at the University of Waterloo, and Director of our Master of Environment and Business (MEB) executive education program. I am also on the executive team of the Social Responsibility division of the Administrative Science Association of Canada (ASAC). ASAC is the Canadian association for business professors. My academic training includes a BSc (Biology) from Mount Allison University, an MES (Environmental Management) from Dalhousie University, and a PhD (Management) from McGill University. All of my current research is on sustainable development. I also teach ENBUS 602: Introduction to Sustainability for Business; ENBUS 640: Sustainability Strategies for Enterprises; and ENBUS 102: Introduction to Environment and Business. In summary, my life's work is focused on helping society move towards sustainability.

## **2. Background - Sustainability and Sustainable Development**

This section introduces the concepts of sustainable development and of sustainability.

### **2.1. Commonly Understood Definitions of Sustainable Development and of Sustainability**

While the history of the sustainable development concept predates the Brundtland Report, the most commonly agreed upon definition is from this report - *Our Common Future* - which was prepared by the World Commission on Environment and Development (WCED): "... development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43). Inherent in this definition is the idea of inter-generational equity (future generations) and intra-generational equity (meeting the needs of the present generation). Also inherent is the idea that in order to enable future needs being met, the present generation must stay within ecological limits.

Numerous authors and organizations have expanded on the definition of sustainable development. For example, Gibson (2006) offers a more concrete set of criteria: 1) socio-ecological system integrity; 2) livelihood sufficiency and opportunity; 3) intra-generational equity; 4) inter-generational equity; 5) resource maintenance and efficiency; 6) socio-economic civility and democratic governance; 7) precaution and adaptation; and 8) immediate and long-term integration.

Sustainable development is the process (or journey) while sustainability is the goal. A document produced by the International Institute for Sustainable Development in 1997 provides a clear understanding of the difference:

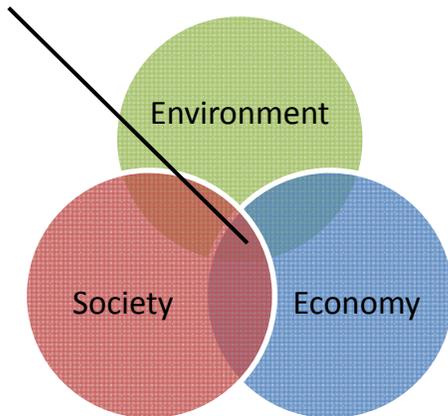
“In general terms, the idea of sustainability is the persistence of certain necessary and desired characteristics of people, their communities and organizations, and the surrounding ecosystem over a very long period of time (indefinitely). Achieving progress toward sustainability thus implies maintaining and preferably improving, both human and ecosystem well-being, not one at the expense of the other. The idea expresses the interdependence between people and the surrounding world.”

(Hardi and Zdan, 1997, p. 8)

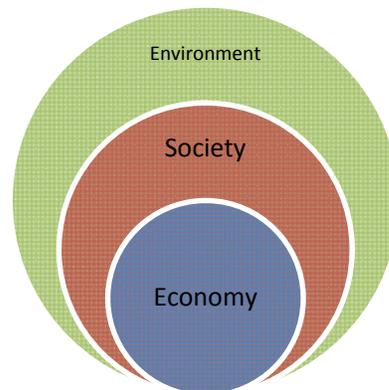
Sustainable development and sustainability are generally explained in terms of three considerations: environmental, social and economic. The following two diagrams show two common visual representations of the concepts. The left-hand side of Figure 1 shows that sustainable development is the full integration of economic, environmental and social aspects; in other words, sustainable development is represented by the overlap in the middle. The right-hand side shows that the economy functions within society, and society functions within the environment. This represents sustainability.

**Figure 1: Visual Representations of Sustainable Development and Sustainability**

Sustainable Development



Sustainability:



(Adapted from Lozano, 2008, p. 1839)

## 2.2. Contextual Approaches to Sustainable Development

Over the years, sustainable development has been adapted to fit different contexts. For example, there are provincial sustainable development strategies, community sustainability plans, corporate sustainability plans, and even moose sustainability plans. Each context is bound by the organization, geography, animal or project and its primary external interactions. From my perspective, generally each of these plans does a poor job of considering the impacts and implications outside of their context.

Engineering sustainability literature tends to focus on the project to ensure the consideration of the economy, environment and society (i.e., stakeholders) as part of the decision-making about the project. The Association of Professional Engineers and Geoscientists of the Province of Manitoba have their own policy on sustainable development, including the statement that:

“Sustainable Development is a common sense approach based on the principle that there can be no development or meaningful economic growth without a clear commitment to protecting the environment. It is dependent upon the active involvement of all citizens to ensure that society's needs are met both now and in the future.”

(APEGM, 1999, p. 1)

Sustainability planning literature tends to focus on the process needed to ensure stakeholder involvement in decision-making. For example, the process must be participatory, including all stakeholders, and it must be transparent. It should consider multiple time periods in the future, while learning from the past. The Bellagio Principles for Assessment were developed in 1996 and updated in 2008. Their intention is to provide guidance to ensure that different scales, time horizons and perspectives are incorporated in sustainability assessments. For example, they recommend sustainability assessments consider “the underlying social, economic and environmental systems as a whole and the interactions among its components”; “appropriate time horizon to capture both short and long-term effects of current policy decisions and human activities”; and “appropriate scope ranging from local to global” (IISD, n.d., p. 1).

Business sustainability literature tends to consider sustainable products and services in relation to their life cycle. A product life cycle begins at the extraction stage, when the materials needed to create the product or offer the service are extracted from the earth, and then there is a manufacturing stage, a retail stage, a consumer stage, and a waste or recycle stage. Sometimes the environment or social impacts of a particular product or service are higher at one particular stage of the life cycle. A project, such as the Keeyask Generation Project, has a life cycle as well, and the social and environmental impacts will be different at each stage (e.g., construction, operation, restoration). The same applies for the product being created; for example, energy (e.g., the generation of the energy, the transportation, the retail/use, and the ‘waste’).

In terms of ecological limits, for renewable resources, the general rule is that consumption must be kept to sustainable yields (Costanza & Daly, 1992). For non-renewable resources, it depends on the source and how recyclable the materials are. For non-recyclable materials, the 'one use' resources should be phased out. For recyclable materials, these materials should be kept in circulation (Steinback & Whellmer, 2010). These rules assume that the impacts at any stage of the product's life cycle are not cumulatively impacting the environment or society in any unacceptable way.

### **2.3. Sustainable Development Topics**

The correct set of topics to consider for sustainable development depends on the context. While there will always be a mix of social, environmental and economic considerations, the exact combination varies. For example, at the sustainable community level (such as in Thompson, Gillam, or the First Nation communities), topics of interest generally are: energy, land use, transportation, water (quality and quantity), waste, air quality, food security, ecological diversity, climate change (mitigation and adaptation), housing, social infrastructure (such as schools or hospitals), education, health, safety, financial security, employment, local economy, environmental governance, and civic engagement (Taylor, 2012).

At the provincial level, the 2009 sustainability report for Manitoba considers natural environment indicators for biodiversity and habitat conservation, fish, forests, air, water, and climate change. The same report considers economic indicators for economic performance, agricultural sustainability, mining, energy efficiency and conservation, consumption and waste, employment, and education. The social indicators are: demographics, equity and rights, community and culture, governance, health, and justice (Province of Manitoba, 2009).

### **2.4. Sustainable Project Framework**

One common approach in the business sustainability literature is to classify companies and activities on a scale. There are two approaches to defining the high end of the scale. One approach is to use 'best in class', which means that the high end is defined by the leading edge practices within a specific sector. The Hydropower Sustainability Assessment Protocol uses this approach (International Hydropower Association, 2010). The other approach is to determine what sustainability would look like and set the standard regardless of current practice. The Forest Stewardship Council certification scheme uses this approach (FSC, 2013). A number of companies do as well, such as Interface, which has set goals such as 'zero waste'. For the scale to actually reflect development that is aiming for sustainability, only the second approach is compatible.

Typically, at the low end of the scale, companies are meeting the legal requirements required of them. Next, they are aiming for continual improvement, but not for sustainability. At the high end of the scale, they have leading edge practices that address both internal and external stakeholders and both short-term and long-term ecological impacts. And, at the high end of the scale, companies are aiming for ‘zero waste’ and ‘a net positive contribution’ instead of just a mitigated negative impact. The high end of the scale represents sustainable development.

Roome (1992) introduced one such scale as a strategic options model. The options ranged from non-compliance to compliance, compliance plus, commercial and environmental excellence, and leading edge. In a current survey we are doing on sustainable communities, we are using a similar scale that has been adapted to the community level (Clarke, et al., 2013):

- (1) Compliance: ensure regulations are met (by the local government).
- (2) Beyond Compliance: local government is proactively working to reduce negative or increase positive impacts internally.
- (3) Proactive: local government is proactively working together with others to reduce negative or increase positive community-wide impacts.
- (4) Leading Edge: effecting change beyond community boundaries.

Lin (2012) adapted Roome’s (1992) scale to consider pollution control, pollution prevention, product stewardship, and sustainable development. In essence, pollution control is putting in ‘end of pipe’ solutions that meet regulations, whereas pollution prevention involves mitigating environmental impacts before they occur (e.g., reducing energy and water use, or changing to a closed system where no chemicals are released to the environment). Product stewardship is about redesigning the product or process so that it has no negative impacts, such as removing the usage of toxic chemicals completely and replacing them with non-toxic substances. Finally, sustainable development is about creating positive change for both internal and external stakeholders, while ensuring that there are no ongoing negative impacts.

Adapting these scales to a project such as the Keeyask Generation Project, which is an initiative of the Keeyask Hydropower Limited Partnership, the scales would look like the content in Table 1:

**Table 1: Sustainable Project Framework**

<b>Low End</b> (Obeying the Law = doing less harm)		←————→	<b>High End</b> (Sustainable development = doing more good)
<b>Compliance</b>  Ensuring regulations are met.	<b>Mitigation</b>  Preventing negative impacts on the environment, society or economy.	<b>Sustainable Project Design</b>  Ensuring the project has no negative environmental, social or economic impacts in its design, and that it has positive impacts for those directly involved.	<b>Sustainable Development</b>  Creating positive social, economic and environmental impacts for internal stakeholders (e.g., Manitoba Hydro, and the Keeyask Cree Nations), and for external stakeholders (e.g., the Town of Gillam, City of Thomson, and province of Manitoba) both in the present and in the future. Ensuring there are no ongoing negative environmental, social or economic impacts (local, provincial or global).

### 3. Manitoba – Sustainability and Sustainable Development

The province of Manitoba has an impressive set of sustainable development initiatives, including being involved in the Canadian Council of Minister of Environment’s (CCME) efforts. Sustainable development has clearly been the policy for the province of Manitoba and for Manitoba Hydro for over 20 years. Within the province, the hierarchy of legislative initiatives is: The Sustainable Development Act (which includes Principles and Guidelines), the Sustainable Development Strategy (which includes the Report of the Consultation on Sustainable Development Implementation), the Sustainable Development Code of Practice, the Sustainable Development Financial Management Guidelines, and the Sustainable Development Procurement Guidelines (which includes goals and a policy) (Sustainable Procurement in Manitoba, 2013). This section of the report will focus on the Act, Strategy, Principles and Guidelines, and will relate the content to the sustainable project framework (presented above). A brief introduction will also be provided to the Code, Financial Management and Procurement documents.

#### 3.1. Manitoba Sustainable Development Act

This Act is the foundation for sustainable development at the provincial level: “The purpose of this Act is to create a framework through which sustainable development will be implemented in the provincial public sector and promoted in private industry and in society generally” (Legislative Assembly of Manitoba, 2012, p. 1). The Act (2012, p. 1) defines sustainability and sustainable development in the same way as this report.

"Sustainability" means the capacity of a thing, action, activity or process to be maintained indefinitely in a manner consistent with the spirit of the Principles and Guidelines; (« durabilité »).

"Sustainable development" means meeting the needs of the present without compromising the ability of future generations to meet their own needs; (« développement durable »).

The Act attaches the Sustainable Development Principles and the Sustainable Development Guidelines as schedules. It also introduces the sustainability strategy and sustainability indicators for the province.

The Act is meant to be implemented by the provincial government departments, Crown Corporations, and other publically funded institutions. Specifically:

“The Sustainable Development Act applies to all Departments of the Manitoba Government, including Agencies, Boards, Commissions and Committees that report to the executive branch of government. The Act also applies to Crown Corporations, and the broader public sector, referred to as the MASH Sector which includes local authorities (municipalities), school divisions, universities, colleges, health authorities and hospitals.”

(Sustainable Procurement in Manitoba, 2013, p. 1)

### **3.2. Manitoba’s Principles and Guidelines of Sustainable Development**

The Principles of Sustainable Development and Guidelines for Sustainable Development were put into legislation through the Sustainable Development Act.

#### ***Principles of Sustainable Development*** (Province of Manitoba, n.d.)

There are seven principles of sustainable development (see Appendix A for the full description of these principles). These are:

- Integration of Environmental and Economic Decisions
- Stewardship
- Shared Responsibility and Understanding
- Prevention
- Conservation and Enhancement
- Rehabilitation and Reclamation
- Global Responsibility

These principles are very holistic and include important topics such as:

- Integration of economic, environmental, human health, and social considerations
- Inter-generational equity (benefit present and future generations)
- Intra-generational equity (needs of the people of the various geographic regions and ethnic groups in Manitoba)
- Precautionary approach (anticipate and prevent or mitigate adverse ... having a particularly careful regard to decisions whose impacts are not entirely certain ...)
- Ecological integrity (maintain ecological processes, biological diversity and life-support systems of the environment; sustainable yield; efficient use of renewable and non-renewable resources; enhance the long-term productive capability, quality and capacity of natural ecosystems; repair damage; rehabilitate and reclaim ...)
- Scale (thinking globally, and nationally as well as locally).

***Guidelines for Sustainable Development*** (Province of Manitoba, n.d.)

There are six guidelines for sustainable development (see Appendix B for the full description of the guidelines). These are:

- Efficient Use of Resources
- Public Participation
- Access to Information
- Integrated Decision-Making and Planning
- Waste Minimization and Substitution
- Research and Innovation

These guidelines are more procedural in nature, and they highlight:

- Full-cost accounting (e.g., incorporating externalities and non-monetary variables)
- Attention to proper resource pricing, demand management, and resource allocation together with incentives to encourage efficient use of resources (this is particularly relevant for the 'needs assessment' of the Keeyask Generation Project)
- Public participation and transparency
- Inter-generational perspectives in decision-making
- Reducing, reusing, recycling, and recovering the products of society (instead of creating new products)
- Innovation

### 3.3. Sustainable Development Strategy for Manitoba

#### ***Implementing Sustainable Development for Future Generations: Manitoba's Sustainable Development Strategy*** (Manitoba Conservation, 2000)

The Strategy is a four-page letter from Hon. Oscar Lathlin (Minister of Conservation in 2000) giving a brief background on sustainable development in Manitoba. It mentions the principles and guidelines that are in the Act. It also explains the Consultation on Sustainable Development Implementation (COSDI) report and states that in 2000 the COSDI report was accepted. The Hansard excerpt from June 29, 2000 reiterates that the COSDI report is the plan of the government; Hon. Oscar Lathlin stated:

“I am pleased to announce that the Manitoba Government has formally accepted the recommendations of the report as the first step in a Sustainable Development Strategy for Manitoba.”

(Legislative Assembly of Manitoba, 2000, p. 1)

#### ***Report of the Consultation on Sustainable Development Implementation (COSDI)*** (Province of Manitoba, 1999)

It is a report of a multi-stakeholder consultation initiative "to consider and make recommendations to government on how Manitoba can best implement Sustainable Development Principles and Guidelines into decision-making, including environmental management, licensing, land use planning, and regulatory processes" (Province of Manitoba, 1999, p. 1). A number of the recommendations (Province of Manitoba, 1999, p. 1) are relevant to the Keeyask Generation Project:

- Require integrated sustainable development planning on a large area basis, such as watersheds.
- Require all municipalities to review and adopt development plans that reflect the components of sustainable development, and provide support to municipalities to implement such development plans.
- Provide opportunity for effective and meaningful public participation and consultation processes at all levels of planning, significant resource allocation and effects assessment and review.
- Work in partnership with Aboriginal peoples to develop a cooperative protocol to ensure effective involvement of Aboriginal peoples where land use and resource planning, significant resource allocation, environmental licensing and regulatory mechanisms, including effects assessment affect Aboriginal peoples and their lands or their ability to exercise their treaty and Aboriginal rights.

- Broaden the concept of assessment from the environmental impact assessment as set out in *The Environment Act*, to an effects assessment to include the assessment and review of all of the sustainability factors of a development. The effects assessment process would culminate in an approval (through the issuance of a license, usually with terms and conditions) or rejection of the proposal. An effects assessment would include the assessment and review of any combination of the following elements:
  - ... an analysis of the alternatives to the project and alternative means for the project, in each case including the "do nothing" alternative
  - need (examined in connection to alternatives)
  - ... description of cumulative and interdependent effects
  - ... project sustainability

Assessment and Review of Effects is defined as “an assessment and review of all sustainability factors such as environmental, economic, social, cultural and human health. The terms ‘assessment and review of effects’, ‘assessment and review process’, ‘assessment process’, ‘assessment and review’, and ‘effects assessment’ will be used synonymously” (Province of Manitoba, 1999, p. 1).

Sustainable Development Components is defined as “The use of the phrases ‘sustainable development components’, ‘sustainable development’, ‘sustainability’, and ‘sustainability factors’ in recommendations all include economic, social, environmental, human health, and cultural considerations” (Province of Manitoba, 1999, p. 1).

### **3.4. Other Key Manitoba Sustainable Development Legislation**

*Manitoba’s Provincial Sustainable Development Code of Practice* (Province of Manitoba, 2001)

This 2001 document reflects the content of the principles and guidelines, but also explicitly mentions the importance of conserving renewable and non-renewable natural resources. (See Appendix C for a longer extract from the Code.)

*Manitoba’s Sustainable Development Financial Management Guidelines and Manitoba’s Sustainable Development Procurement Guidelines* (Sustainable Procurement in Manitoba, 2013)

These two documents were originally adopted in 2001. “Financial Management Guidelines were established to evaluate the sustainability of spending decisions on activities and programs. The purchasing and spending decisions public sector organizations make have major effects on the sustainability of the programs they operate, or on aspects of human health and on the environment and economy.” (Sustainable Procurement in Manitoba, 2013, p. 1)

Manitoba's Sustainable Development Procurement Guidelines are for procurement decisions and include:

- Promoting Environmental Sustainable Economic Development
- Conserving Resources
- Conserving Energy
- Promoting Pollution Prevention, Waste Reduction and Diversion
- Evaluating Value, Performance and Need

In terms of their implementation:

“The Procurement Guidelines are broad in scope and allow for both flexibility and creativity in their application by Manitoba's buying professionals. They can range from the familiar attention to recycled products and avoidance of toxic substances, to the more fundamental recognition that purchasing decisions should consider the unique aspirations and needs of the people of the various regions of the province including Manitoba's Aboriginal Peoples.”

(Sustainable Procurement in Manitoba, 2013, p. 1)

### ***Manitoba's Policy on Green & Sustainable Procurement*** (Manitoba, 2011)

This policy is linked to the implementation of Manitoba's Sustainable Development Procurement Guidelines. “Manitoba shall purchase goods and services in line with Manitoba's principles and guidelines of Sustainable Development and other government procurement policies, legislative requirements and trade agreements” (Manitoba, 2011, p. 1). The procedures mention full cost accounting.

### **3.5. Framework, and the Strategy, Principles and Guidelines**

The following table shows how ‘keywords’ from the Manitoba government's strategy, principles and guidelines fit into the framework. It can easily be seen that the intent of the government documents is to reach the high end of the scale.



- Conservation
- Waste Minimization
- Access to Adequate Information
- Public Participation
- Understanding and Respect
- Scientific and Technological Innovation
- Global Responsibility

The website states: “Manitoba Hydro will apply the principles of sustainable development in all aspects of its operations to achieve environmentally sound and sustainable economic development. Through its decisions and actions to provide electrical services, the Corporation will endeavour to meet the needs of the present without compromising the ability of future generations to meet their needs.” (Manitoba Hydro, 1993, p. 1) This statement, and the principles themselves, focus on the environmental and economic considerations within sustainable development. They do not explicitly focus on social sustainability.

## **5. The Keeyask Generation Project**

The Keeyask Generation Project is a 695-megawatt hydroelectric generating station with supporting infrastructure proposed for the lower Nelson River at the Keeyask Rapids (Keeyask Hydropower Limited Partnership, 2012). The project is proposed by the Keeyask Hydropower Limited Partnership. This partnership includes Manitoba Hydro and four investment entities representing Tataskewayak Cree Nation, War Lake First Nation, York Factory First Nation and Fox Lake Cree Nation.

### **5.1. Sustainable Development and Sustainability Content Currently in the Environmental Impact Statement (EIS)**

#### ***Methods:***

The Keeyask Generation Project EIS materials and Joint Keeyask Development Agreement were searched on October 30, 2013 for keywords ‘sustainable’ and ‘sustainability’ within the following volumes:

- EIS Scoping Document
- Response to EIS Guidelines
- Socio-Economic Supporting Volume

- Project Description Supporting Volume
- Aquatic Environment Supporting Volume
- Terrestrial Environment Supporting Volume
- Physical Environment Supporting Volume
- Joint Keyask Development Agreement

The findings were then analyzed to produce the overall results and topic results shown below in this sub-section. The overall results show where each term was found, and in what quantity (e.g., frequency counts). The topic results emerged from an inductive process that involved coding (or sorting) the terms that were found, and then reducing the data (i.e., aggregating similar themes). The topics are presented in their aggregated forms with the number of appearances of keywords sustainable and of sustainability in the text, and then further explained to show the composition of each theme.

Next, Chapter 9 of the Response to EIS Guidelines was closely read and based on the content contained in this section, the weaknesses of the KGP EIS determined. These results are presented in the next sub-section.

**Overall Results:**

**Table 3: Frequency of Terms Sustainability and Sustainable Development in the Entire Keyask Generation Project EIS and Joint Keyask Development Agreement**

	<b>Sustainable</b>	<b>Sustainable development</b>	<b>Sustainable Community</b>	<b>Sustainability</b>	<b>Sustainability Plan</b>	<b>Sustainability Program</b>	<b>Sustainability Indicator</b>	<b>Sustainability Assessment Protocol</b>	<b>Totals</b>
EIS Scoping Document	<b>8</b>	8	0	<b>1</b>	0	0	0	0	<b>9</b>
Response to EIS Guidelines	<b>37</b>	22	2	<b>45</b>	13	3	4	1	<b>82</b>
Socio-Economic Supporting Volume	<b>12</b>	2	2	<b>11</b>	1	3	0	0	<b>23</b>
Terrestrial Environment Supporting Volume	<b>5</b>	1	0	<b>12</b>	3	0	0	0	<b>17</b>
Project Description Supporting Volume	<b>3</b>	2	0	<b>4</b>	4	0	0	0	<b>7</b>
Aquatic Environment Supporting Volume	<b>7</b>	0	0	<b>0</b>	0	0	0	0	<b>7</b>
Physical Environment Supporting Volume	<b>2</b>	0	0	<b>1</b>	0	0	0	0	<b>3</b>
Joint Keyask Development Agreement	<b>0</b>	0	0	<b>0</b>	0	0	0	0	<b>0</b>
<b>Totals</b>	<b>74</b>	35	4	<b>74</b>	21	6	4	1	<b>148</b>

***Topic Results [number of references]:***

Signposting and Introducing [10]

Environment [58]:

- Sustainable wildlife plans [44]
  - E.g., Moose, fish, caribou, and large carnivores-furbearers
- Sustainability by assessing, planning for, and managing natural systems and resources [14]
  - E.g., Reservoir clearing plan, sustainable land use, soil quality and quantity, wetland function and conservation, green procurement, and ecological sustainability

Socio-economic [36]:

- Collaboratively assessing and mitigating past, current, and future aboriginal socio-cultural, environmental/resource, and economic effects [22]
- City of Thompson [14]
  - E.g., Thompson sustainability plan, and mining dependence in Thompson (Vale to close smelter/refinery in 2015)

Keeyask Generation Project [31]

- Keeyask Generation Project alignment with principles of sustainable development and sustainability [31]
  - E.g., Applying the International Hydropower Association's Sustainability Assessment Protocol, alignment with federal sustainability goals, Manitoba's principles and guidelines of sustainable development, alignment with Manitoba sustainability indicators, and generally adhering to the principles of sustainability and sustainable development

Institutional [13]:

- Manitoba Hydro's commitment to sustainable development [13]
  - E.g., Manitoba Hydro's sustainable development principles, environmental management systems, involvement with International Hydropower Association, and the integration of a sustainability clause into Manitoba Hydro's corporate strategic plan

## **5.2. Weaknesses in the Keeyask Generation Project EIS**

Sustainability and sustainable development are discussed throughout the EIS, with more than half of the frequency counts being found in the Response to EIS Guidelines. In general, the EIS provides a good acknowledgement of the long-term nature of the project, and some of the potential positive impacts for northern people. The content is quite progressive in a number of topics, including the innovative partnership with the Keeyask Cree Nations. Some content considers both current and future generations, and various scales. The Cree worldview that is outlined explicitly states having a positive impact and working with nature, which reflects the same concepts of sustainable development (i.e., the high end of the scale). It is the programs under the Adverse Effects Agreements that seem to provide a number of the positive impacts. Despite the language of ‘adverse effects’ and ‘mitigating’, these agreements seem to have positive intentions as well.

That said, the Joint Keeyask Development Agreement does not use the terms sustainable development or sustainability even once, which raises the question of whether sustainable development is actually at the core of this project, or just included because the EIS Guidelines require it to be. A thorough analysis of all the sustainability-related issues for the Keeyask Generation Project is beyond the scope of this report. Here are some high level observations on the weaknesses in the project based on my analysis of the Keeyask Generation Project - Response to EIS Guidelines, Chapter 9: Sustainable Development and the provincial legislation on sustainable development. As a reminder, this report is not intended as an evaluation of the EIS as a whole, or a judgement on the overall merits of the proposed undertaking; it is meant to help inform the CEC.

### ***5.2.1 Cumulative Effects***

The COSDI report - which became the plan of the Manitoba government in 2000 - calls for cumulative effects to be considered as part of an environmental impact assessment (Province of Manitoba, 1999). It also called for large area plans based on watersheds. In terms of cumulative effects of more than one project, there is mention in the Keeyask Generation Project EIS (Response to EIS Guidelines, Chapter 9) of mitigating the past negative impacts on the Cree communities. As this is not the first hydro project on this river, a cumulative effects assessment should come first. In addition, as more than one new project is planned for the same region at the same time, the cumulative effects of these projects should be considered. I saw no mention of the cumulative effects assessment in the Response to EIS Guidelines, Chapter 9. In my opinion, the Regional Cumulative Effects Assessment being discussed for this region should be completed prior to any decision on a new project being added. Relatedly, without a cumulative effects assessment, the baseline data may be based on a deteriorated ecosystem instead of against the original state of the river. Finally, it seems like the Needs For and Alternatives To (NFAT) review should come prior to this EIS review. The NFAT review also has sustainable development as part of its Terms of Reference (Province of Manitoba, 2012).

### ***5.2.2 Assessment of Sustainability Factors***

The terms of reference for the CEC specifically ask the CEC to consider sustainable development (as outlined in Manitoba's sustainable development Strategy, Principles and Guidelines) as part of the assessment. The Report of the Consultation on Sustainable Development Implementation (COSDI), which is part of Manitoba's Sustainable Development Strategy, calls for the environmental impact assessment to include an assessment of sustainability factors such as project alternatives (including a do nothing alternative), cumulative effects and project sustainability. Also, the COSDI report also defines the sustainability factors to be assessed as environmental, economic, social, cultural and human health. The provincial Principles and Guidelines offer a comprehensive understanding of sustainable development that includes integrated thinking, inter- and intra-generational equity, precaution, ecological integrity and considerations of scale. The Principles and Guidelines are aiming for true sustainable development (the high end of the framework). While the EIS addresses each principle and guideline outlined in the provincial legislation, it does not seem to do an analysis against sustainability factors such as project alternatives; nor does it do an assessment of sustainability factors against any of the agreed upon lists of sustainability criteria (intra- and inter-generational equity, precaution, etc.) or even the provincial list of sustainability components (e.g., environment, economic, social, cultural and human health). Social, cultural and human health considerations are inherently mentioned in the Response to EIS Guidelines, Chapter 9, and perhaps were assessed in preparation for the Adverse Effects Agreements, but from the content I read, the assessment of social, cultural and human health considerations seems ad hoc and not a region-wide comprehensive assessment of each sustainability factor.

### ***5.2.3 Social Considerations***

The EIS dedicates a chapter (Response to EIS Guidelines, Chapter 9) to sustainable development, and provides commentary on how each of the principles in Manitoba's Principles of Sustainable Development, and each of the guidelines in Manitoba's Guidelines for Sustainable Development, is considered. That being said, the emphasis is still on an environmental assessment. Economic topics are also discussed. The social considerations are given less attention (such as health, housing and education infrastructure) and are combined into a socio-economic analysis that really puts the emphasis on the economic aspects. For the environmental topics, there is an emphasis on mitigating negative local impacts and the positive benefit of reducing greenhouse gas emissions by replacing fossil fuel generation in the USA. For the economic topics, the creation of jobs, tax revenue, and long term income (for both the Cree communities and the province) are emphasized. For social topics, the emphasis is on mitigating the negative impacts on the Cree communities (through language programs, country food access, etc.) and on creating a positive impact for these Cree communities (in new scholarships for

students). Also, there is some emphasis on mitigating negative impacts of the workers on the local communities. How will this project impact (either positively or negatively) on the public health system, existing educational institutions, current housing challenges, social equity within communities, etc.? My understanding is that education on First Nations reserves is underfunded (per capita) by the federal government, compared to what off-reserve schools receive. Without quality education to help students achieve grade 12, how will the Keeyask Generation Project train people for trades? Also, if the intent is to train people for construction jobs, then this is not necessarily sustainable for the community. Construction jobs require the workers to be mobile to gain further employment. Are the jobs that are intended for these communities building long-term employment skills that will match long-term local opportunities? A proper social assessment, as mentioned in 5.2.3, would consider the regional impacts (positive and negative) of this project on the social infrastructure and on the local people. Perhaps this was done, but I do not see it reflected in the content I read.

#### ***5.2.4 Thompson and Gillam's Community Sustainability***

There is no mention of the City of Thompson in the Response to EIS Guidelines, Chapter 9, and almost no mention of the Town of Gillam. There are two short points about helping increase the population of Gillam (in Response to EIS Guidelines, Table 9A-1), but no mention of addressing the core issues that Gillam has identified for itself. Thompson's Community Sustainability Plan has identified eleven priorities for the community (AECOM, 2010). Does this project help Thompson achieve its priorities? Gillam's Development Plan identified three major issues that are impacting future development: the lack of choice in housing, the lack of land for development, and the lack of a sense of community for all citizens (Town of Gillam, 2012). Does this project help address these issues, or exacerbate them? Do these communities support the Keeyask Generation Project? There is no mention of these communities in Chapter 9's content on public participation.

#### ***5.2.5 Green Procurement, Green Building Design, and Waste Management***

The section on waste is particularly weak. It states that the waste management is dependent on local facilities instead of on 'zero waste', or on creating a solution. Specifically, (Response to EIS Guidelines, p. 9-10) states:

“While opportunities to recycle wastes in remote northern areas are limited, waste generated by the Project will be minimized and waste materials will be recycled to the extent practical and the remaining waste will be disposed of in accordance with license and regulatory requirements.”

Later in Chapter 9 of the Response to EIS Guidelines (p. 9-13), there is an explanation that efforts will be made to reduce the amount generated, but this is followed by the same caveat that inherently depends on waste management systems being in place. Is the intention here to rely on public waste management to handle the waste from the workers and facility? Normally this is built into private costs. Also, procurement and waste management are two ends of the same process. Section 2B.8 in the Physical Environment Supporting Volume offers Manitoba Hydro's Green Procurement Practices. As mentioned earlier in this report, the province of Manitoba has very strong Sustainable Development Procurement Guidelines that also applies to Crown Corporations (Sustainable Procurement in Manitoba, 2013). There is considerable potential to have positive local and sustainable development impacts through procurement. Procurement is the source of most waste, so there is also potential to eliminate waste by purchasing products (and packaging) that can biodegrade, by purchasing 'green' materials for construction, and by requiring suppliers to take back the packaging. Related to procurement is the design of buildings. Are they as environmentally-friendly as possible so that they have a net positive impact instead of a negative impact? Full cost accounting should also take green procurement, green building design and waste management into consideration. Having plans for waste management, green building design and sustainable procurement would ensure these topics are full considered.

### **5.3. Relevance of the Sustainable Project Framework to the Keeyask Generation Project**

Given that a considerable amount of the Manitoba sustainable development legislation is at the high end of the scale, this is a simple way to compare the strategy, principles and guidelines to content in the Keeyask Generation Project EIS. Does the content in the EIS aim towards sustainability through sustainable development, or does it only have some of the needed components in place? Below are the key themes that have emerged in the EIS (from the topic results presented in section 5.1, and the high level comments presented in 5.2) and their mapping on the framework. By limiting this analysis to the content in the EIS, the 'missing content' mentioned in section 5.2 is not considered in this framework.



aiming for sustainable development (as outlined in the provincial legislation) and not just compliance, mitigation or even sustainable project design.

## **6. Recommendations and Conclusions**

In conclusion, the EIS includes both sustainable development and sustainability content. Based on the sustainable project framework, some of this content is true sustainable development (and thus aiming towards sustainability), whereas some of it is not. There are a number of key considerations that I believe the CEC should pay particular attention to, namely, the need for a more comprehensive sustainability analysis, the need for the Regional Cumulative Effects Assessment to be completed before this project can be considered, the need to consider additional social topics, and the community sustainability in both the Town of Gillam and the City of Thompson, and the need to develop comprehensive green procurement, green building and waste management plans for the project.

In summary, based on the assessment completed as part of this report, my recommendations are:

1. The process should consider regional cumulative effects;
2. The EIS should include an assessment of all sustainability factors;
3. The social considerations need more attention;
4. The Keeyask Generation Project should also contribute to Thompson and Gillam's community sustainability; and
5. Plans for green procurement, green building design and waste management are needed.

While the Keeyask Generation Project is being put forward from a business perspective, which is perhaps the correct lens for the Partnership and for Manitoba Hydro, I believe that the CEC should consider sustainable development from a provincial perspective. The goal should not just sustainable project design, but sustainable development. The current content does not even achieve sustainable project design in all topics.

Finally, while it is outside the scope of my report, I am wondering more about the agreement between the four communities and Manitoba Hydro. I study cross-sector partnerships, so I am wondering about the governance structure and how decision-making, communication, monitoring & reporting, and oversight will be managed. Is it the Band Council that has a say in the Partnership's decision-making, and if so, how will this be managed? Also, are the Keeyask Cree Nations setting up a Trust with the revenue? While I am sure that the Keeyask Cree Nations and Manitoba Hydro have given considerable thought to these questions, I do have one point to add. In my opinion, creating a business partnership between Manitoba Hydro and First Nation communities is an excellent idea. I am wondering whether this has been considered on existing hydro projects. Business joint ventures (or mergers, or acquisitions, or changes in ownership structure) are not limited to the start-up stage of a project. They can happen at

any time. There is less risk for the Keeyask Cree Nations to buy into an existing project than into a new one, and yet all the same benefits may result for their communities without additional harm to their local environment. Has reconciliation and/or these types of business opportunities been considered?

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## APPENDICES

### Appendix A

#### Manitoba's Principles of Sustainable Development

##### *Integration of Environmental and Economic Decisions*

- 1(1) Economic decisions should adequately reflect environmental, human health and social effects.
- 1(2) Environmental and health initiatives should adequately take into account economic, human health and social consequences.

##### *Stewardship*

- 2(1) The economy, the environment, human health and social well-being should be managed for the equal benefit of present and future generations.
- 2(2) Manitobans are caretakers of the economy, the environment, human health and social well-being for the benefit of present and future generations.
- 2(3) Today's decisions are to be balanced with tomorrow's effects.

##### *Shared Responsibility and Understanding*

- 3(1) Manitobans should acknowledge responsibility for sustaining the economy, the environment, human health and social well-being, with each being accountable for decisions and actions in a spirit of partnership and open cooperation.
- 3(2) Manitobans share a common economic, physical and social environment.
- 3(3) Manitobans should understand and respect differing economic and social views, values, traditions and aspirations.
- 3(4) Manitobans should consider the aspirations, needs and views of the people of the various geographical regions and ethnic groups in Manitoba, including aboriginal peoples, to facilitate equitable management of Manitoba's common resources.

##### *Prevention*

- 4 Manitobans should anticipate, and prevent or mitigate, significant adverse economic, environmental, human health and social effects of decisions and actions, having particular careful regard to decisions whose impacts are not entirely certain but which, on reasonable and well-informed grounds, appear to pose serious threats to the economy, the environment, human health and social well-being.

##### *Conservation and Enhancement*

- 5 Manitobans should
  - (a) maintain the ecological processes, biological diversity and life-support systems of the environment;

- (b) harvest renewable resources on a sustainable yield basis;
- (c) make wise and efficient use of renewable and non-renewable resources; and
- (d) enhance the long-term productive capability, quality and capacity of natural ecosystems.

***Rehabilitation and Reclamation***

6 Manitobans should

- (a) endeavour to repair damage to or degradation of the environment; and
- (b) consider the need for rehabilitation and reclamation in future decisions and actions.

***Global Responsibility***

7 Manitobans should think globally when acting locally, recognizing that there is economic, ecological and social interdependence among provinces and nations, and working cooperatively, within Canada and internationally, to integrate economic, environmental, human health and social factors in decision-making while developing comprehensive and equitable solutions to problems.

(Adapted from Legislative Assembly of Manitoba, 2012)

## Appendix B

### Manitoba's Guidelines for Sustainable Development

#### **1. *Efficient Use of Resources*** - which means

- (a) encouraging and facilitating development and application of systems for proper resource pricing, demand management and resource allocation together with incentives to encourage efficient use of resources; and
- (b) employing full-cost accounting to provide better information for decision makers.

#### **2. *Public Participation*** - which means

- (a) establishing forums which encourage and provide opportunity for consultation and meaningful participation in decision making processes by Manitobans;
- (b) endeavouring to provide due process, prior notification and appropriate and timely redress for those adversely affected by decisions and actions; and
- (c) striving to achieve consensus amongst citizens with regard to decisions affecting them.

#### **3. *Access to Information*** - which means

- (a) encouraging and facilitating the improvement and refinement of economic, environmental, human health and social information; and
- (b) promoting the opportunity for equal and timely access to information by all Manitobans.

#### **4. *Integrated Decision Making and Planning*** - which means

encouraging and facilitating decision making and planning processes that are efficient, timely, accountable and cross-sectoral and which incorporate an inter-generational perspective of future needs and consequences.

#### **5. *Waste Minimization and Substitution*** - which means

- (a) encouraging and promoting the development and use of substitutes for scarce resources where such substitutes are both environmentally sound and economically viable; and
- (b) reducing, reusing, recycling and recovering the products of society.

#### **6. *Research and Innovation*** - which means

encouraging and assisting the researching, development, application and sharing of knowledge and technologies which further our economic, environmental, human health and social well-being.

(Adapted from Legislative Assembly of Manitoba, 2012)

## Appendix C

### Except from Manitoba's Provincial Sustainable Development Code of Practice

The decisions and activities of the public sector shall strive towards:

- a. integrating economic, environmental, human health and social considerations;
- b. ensuring the most efficient and effective use of human, natural and financial resources with due consideration of full-cost accounting;
- c. including processes for informing those affected by decisions and actions in a timely manner and ensuring meaningful opportunity for public consultation and due process, including, where applicable, collaborative decision making, consensus building and alternative dispute resolution;
- d. being carried out in an equitable manner;
- e. minimizing waste and utilizing environmentally, socially and economically sound and viable substitutes for scarce resources;
- f. being based on sound science and research;
- g. recognizing the value of, and integrating where possible, traditional knowledge and intergenerational considerations;
- h. being effective stewards in the management of the economy, environment, human health and social well-being for present and future generations;
- i. recognizing that all departments and agencies share responsibility for the pursuit of sustainable development in Manitoba;
- j. anticipating, mitigating and preventing adverse impacts to the economy, environment, human health and social well-being;
- k. conserving renewable and non-renewable natural resources; and
- l. ensuring our local decision making is consistent with our global environmental, economic and social responsibilities.

(Adapted from Province of Manitoba, 2001)