

AFTERWORD

The different benefits have been studied to develop the Wa-Pa-Su project sustainability rating system framework to measure in a consistent manner the design and implementation of sustainable development strategies in projects with complex life cycles (e.g. oil & gas, energy, heavy industrial, mining). The rating system framework is a decision-making tool that can be adapted and used by companies, stakeholders and policy makers to measure and understand the range of impacts that the projects may have over time. This textbook has presented a description of the different components of the rating system, including the structure, the sustainable development indicators (SDIs) pre-selection process, the credit weighting tool (CWT) and the credit and overall sustainability assessment score allocation methodology. The textbook has also presented a theoretical adaptation and application of the assessment methodology to the surface mining recovery process for the development and operation of oil sands projects.

The exploration and exploitation of the oil sands resources is strategic development not only for Canada but also the world. As global demand for energy continues to rise, unconventional petroleum extraction and production of petroleum substitutes are both becoming more necessary. Development and operation of unconventional oil projects can have considerable social, economic and environmental impacts. The Athabasca oil sands in northern Alberta is one of the largest unconventional oil deposits in the world. Government policy makers, industrial developers and other stakeholders generally work together to develop oil sands projects in an environmentally responsible manner; however, the projects lack an effective sustainable development (SD) measurement tool.

The development of the oil sands has been shaped by different circumstances (e.g. politics, economics, social) throughout the years. As the development continues, concerns related to the projects' sustainability increase. Developing companies, stakeholders and society are increasingly interested in understanding the impact that the projects have on present and future generations. Government agencies have issued a series of legal requirements (e.g. regulations) as an attempt to mitigate the impact of the projects. While these provide a

general guideline to assist the decision-making processes at the senior and corporate levels, they barely assist practitioners and developing companies to accomplish the goals of sustainability in its three fundamentals pillars: social, economic and environmental. Consequently, the idea of developing an ESRS framework to measure the progress towards sustainability in complex environments makes perfect sense.