
Statement of Work

CO₂ Reduction Initiatives Project

Submitted on August 8, 2017 for
SPC on Finance on August 14, 2017



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City of Saskatoon SPC on Finance
222 Third Avenue North
Saskatoon, Saskatchewan S7K 0J5

Statement of Work – Internal Audit Plan – Co2 Reduction Initiatives Project

Recommendation:

- **That the enclosed Statement of Work for the Co2 Reduction Initiatives Project be approved and that SPC on Finance allocate funds for this internal audit project as follows:**
- **\$69k / 400 hrs (275 hrs originally allocated to Co2 Reduction Initiatives + 125 hrs credited from 2016 carryover hrs) allocated as part of the approved 2017 Internal Audit Plan**
- **\$17k / 100 hrs as an additional internal audit project from the 2017 internal audit services approved budget in accordance with City Council Policy Co2-032 (Internal Audit Charter).**

Please find enclosed the Statement of Work for the above referenced project. Note that the total proposed scope of the project is 500 hours. Detailed planning and preparation for the project have been ongoing since May 2017 and detailed fieldwork efforts on the project will continue upon approval of the Statement of Work by SPC on Finance.

We will work with Administration to complete the project activities in 2017 and plan to report back to the SPC on Finance in early 2018.

Yours truly,

PricewaterhouseCoopers LLP



Jesse Radu, CPA, CA
Partner

1. Background

The Chartered Professional Accountants of Canada, in its 2016 *Climate Change Briefing Note*, stated that “climate change, already a significant challenge for many companies, is a principal risk facing businesses, economies and societies around the world today, in terms of both likelihood and severity of potential impact.” The World Economic Forum’s (WEF) *Global Risk Report 2016* says, “After its presence in the top five most impactful risks for the past three years, the failure of climate change mitigation and adaptation has risen to the top and is perceived in 2016 as the most impactful risk for years to come.”

Climate change has risen to top-of-mind for businesses and governments at a global level. At a national level, the effects of climate change are being seen. Recent flooding of Quebec’s Mauricie Region and B.C.’s Okanagan Valley have these communities struggling with the aftermath. Wildfires in Fort McMurray have residents dealing with \$3.58 million dollars of insurable damage¹. In 2013, ice storms in Toronto encumbered the electricity sector with \$12.9 billion of infrastructure damage². Extreme weather events are becoming more severe and frequent due to climate change.

Efforts to reduce greenhouse gas emissions are becoming prevalent. The federal government announced a Canada-wide carbon levy on fossil fuels. Most coal-powered electricity generation facilities are to be shut down by 2030. Provinces are gearing up for carbon cap-and-trade systems as Ontario introduces new legislation and Alberta shifts from a baseline-and-credit system to harmonize with other systems.

The effects of climate change represent a significant risk to businesses and governments, including municipalities. There are two broad categories of climate change actions: mitigation and adaptation. Best-prepared municipalities are examining both mitigation and adaptation.

Climate change mitigation requires action to reduce greenhouse gas (GHG) emissions attributable to the City of Saskatoon providing services to the community. Mitigation is often driven by government regulation, as well as by voluntary commitments that businesses and governments make to save costs or respond to external stakeholder pressure. While mitigation may add operational expenses or require additional investment, it can also create opportunities for cost savings and innovation. Table 1 in the Appendix briefly reviews government agreements and legislation that is driving climate change mitigation in Canada.

Climate change adaptation is a planned response to the effects of climate change on a business or government. These actions may present strategic opportunities. The possible impacts of the effects of climate change for a municipality include water scarcity, exposure of infrastructure to increased severe weather events (including exposure of City-owned facilities to increased severe weather events), and increasing morbidity and mortality from increased frequency of severe climate events such as heatwaves and smog episodes.

2. Scope of Work and Approach

The City of Saskatoon (the “City”) Strategic Risk Register contains two risks relevant to the Strategic Goal of Environmental Leadership and, more specifically, to climate change. Risks EL-2 and EL-3 state that “The City’s community education and awareness initiatives regarding carbon footprint may not be affecting change in people’s attitudes and behaviours” and “The City may fail to identify and pursue corporate CO₂ reduction initiatives”. This Internal Audit project is intended to assess whether the City’s current environmental strategy is appropriate, can be properly implemented, and has adequate resources to implement the strategy. Included in this assessment is the implications of the federal government’s proposal for a carbon levy. Our approach to this review is to complete discrete but connecting sub-projects that build to an assessment of the strategy and resources.

¹ Insurance Bureau of Canada - <http://www.ibc.ca/bc/resources/media-centre/media-releases/northern-alberta-wildfire-costliest-insured-natural-disaster-in-canadian-history>

² Toronto Hydro - <http://www.cp24.com/news/toronto-hydro-estimates-ice-storm-cost-utility-12-9m-1.1631835/>

Sub-Project 1: Mitigation Goal Setting and Benchmarking

Objectives

1. Provide an assessment of whether the City's climate change mitigation goals are reasonable given the distribution of the current GHG inventory, available techniques/technologies, and reasonable costs.
2. Provide an overview of what comparable cities expect to achieve in terms of climate change mitigation goals.
3. Provide an assessment of resources required to meet the City's mitigation goals.

Approach

The City is in the process of setting climate change goals. We will examine the mitigation goals and their level, and assess them relative to both internal capacity to address these goals and external comparatives. For example: in terms of mitigation commitments (e.g., a 40% reduction in corporate GHG emissions by 40% by 2023 from 2014 levels), the internal capacity component would review the distribution of the GHG inventory, assess which items are within the City's ability to control or influence, and examine readily available and economic techniques or technologies, using Marginal Abatement Cost Curves (MACC) that could reduce GHG emissions. This will provide the City with an understanding of whether the mitigation goals set are reasonable given the underlying nature of its GHG inventory and mitigation measures.

Benchmarking involves comparing the mitigation goals set to other comparable cities. A critical component of this process is the selection of comparable municipalities. We plan to use 2 to 3 comparable cities in size and function to the City of Saskatoon. We would first assess the comparability of the cities and state any necessary adjustments when examining the goals. We would then compare the City's goals and annotate reasons for differences.

We will assess the resources required to implement the City's mitigation goals. This assessment would include the financial and human capital required and the current capacity available (in-house skills, whether term or permanent positions, and community relationships/partnerships) to achieve these goals.

The performance of this sub-project would require a workshop to obtain sufficient context and feedback, and the workshop would focus on an assessment of the strategy being proposed by Administration, specifically to validate and assess the City's proposed blend of policies, plans, programs and projects.

Deliverable

A written report that assesses the reasonableness of the City's mitigation goals and compares them against other cities. This report would assess the ability of the City's resources to achieve these goals.

Sub-Project 2: Mitigation Risk Identification and Measures Assessment

Objectives

1. Provide an assessment as to whether the City has identified appropriate climate change mitigation measures.
2. Provide an assessment of the effect of a carbon levy on fossil fuel consumption on the City.
3. Provide an assessment whether the mitigation measures the City is taking to address the climate change risks are appropriate and are adequately resourced.

Approach

Climate change mitigation risk identification will examine the City's risks of not achieving its goals (including the potential risks and associated costs of inaction), assess the reasonableness and completeness, and then evaluate the magnitude of their effect and potential for occurring. Mitigation measures assessment examines both the mitigation measures that have been put in place to manage the risks as well as the prioritization of the risk and mitigation measures.

Included in this assessment is the effect of a carbon levy on fossil fuel (including heating energy). We would use information collected for the GHG inventory and our understanding of the potential levy rate in the next ten years to review the City's model used to estimate the impact and costs to the City.

We will also examine whether the resources required to implement the mitigation measures are appropriate, including the financial and human capital required and the current capacity available (in-house skills, whether term of permanent positions, and community relationships/partnerships) to manage the mitigation actions.

Deliverable

A written report that assesses whether the appropriate climate change mitigation actions have been identified, whether their impact on the City has been evaluated appropriately, and the risks of the City not achieving its mitigation goals. The report will also identify the measures that have been put in place for each risk and assess their appropriateness. The report will include an assessment of the models of the financial impacts to the City including the financial effect to the City of a carbon levy on fossil fuel.

Sub-Project 3: Data Management Analysis

Objectives

1. Provide an assessment of the efficiency and effectiveness of the data management system that underlies the City's GHG inventory, including an assessment of the controls put in place to manage the GHG information.
2. An assessment of the resources required to collect, report, and manage the City's GHG inventory on an ongoing and go-forward basis.

Approach

The integrity of underlying data is critical to make sound decisions. This sub-project maps out the data collection process for climate change information (from measurement to reporting), and identifies and assesses the controls used to ensure data integrity. Using process flow maps from engineering and controls analysis from financial auditing, we will provide the City with an analysis that identifies any inefficiencies in the City's data collection and reporting processes and areas for improvements in the City's controls.

While reviewing the data management system, we will interview personnel as to their experience, skills, and training to manage the GHG inventory, and assess the resources required.

Deliverable

A written report that documents the City's data flow maps and controls, an assessment of the process and controls, and suggestions for improvement. Included in the report will be an assessment of the resource needs to fulfil these roles and the capacity of the City to do so.

3. Stakeholders

The key stakeholders /of the project from the City of Saskatoon Administration are as follows: General Manager of Corporate Performance, Director of Environmental and Corporate Initiatives, and Director of Corporate Risk.

4. Budget and Timeline

Our fees are based on actual hours incurred at the agreed upon hourly billing rates in the "Internal Audit Services Agreement" dated January 1, 2015. Specifically, sections 6(4) and 6(6) of the "Internal Audit Services Agreement" specify hourly rates to be charged. We estimate our fees for the completion of our services under this Statement of Work will be \$86,000 plus out of pocket expenses and applicable taxes, which will be charged on an actual basis. We estimate out of pocket expenses to be \$9,000. We plan to complete the work in 2017 and report in early 2018.

Appendix – Current Relevant Climate Change Regulations

Jurisdiction	Name	Description
International	Paris Agreement (2015)	<ul style="list-style-type: none"> • Hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change • Increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production • Make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development
International	Montreal Protocol (2016)	<ul style="list-style-type: none"> • Decrease HFC production and consumption by at least 85 % compared to annual average values in the period 2011-2013
Canada, US, Mexico	North American Climate, Clean Energy Environment Partnership (2016)	<ul style="list-style-type: none"> • Reduce methane emissions by 40-45 % by 2025 • Generate 50% of energy from renewable sources by 2025
Canada and US	Joint Statement on Climate, Energy, and Arctic Leadership (2016)	<ul style="list-style-type: none"> • Reduce methane by 40-45% below 2012 levels by 2025 from the oil and gas sector
Canada	Intended Nationally Determined Contribution (INDC) (2015)	<ul style="list-style-type: none"> • Reduce greenhouse gas emissions by 30% from 2005 levels by 2030
Canada (excluding SK)	Pan-Canadian Framework on Clean Growth and Climate Change	<ul style="list-style-type: none"> • Carbon price starting at a minimum of \$10 per tonne in 2018, rising by \$10 each year to \$50 per tonne by 2022
Saskatchewan	The Management and Reduction of Greenhouse Gases Act	<ul style="list-style-type: none"> • Legislation drafted but not in force