



THE STATE OF BROWNFIELDS IN CANADA

Renewing Canada's National
Brownfield Redevelopment Strategy

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Report prepared for the Canadian Brownfields Network

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<i>The opinions expressed in this research report are those of the authors only and do not represent opinions and views of Ryerson University</i>

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List of Acronyms

NRTEE	National Round Table on the Environment and the Economy
CBN	Canadian Brownfields Network
CCME	Canadian Council of Ministers for the Environment
CMHC	Canadian Mortgage and Housing Corporation
FCM	Federation of Canadian Municipalities
CUI	Canadian Urban Institute
CCME	Canadian Council of Ministers of the Environment
FCSAP	Federal Contaminated Sites Action Plan
GMF	Green Municipal Fund
PSAB	Public Sector Accounting Board
RBCA	Atlantic Partners in Risk Based Corrective Action
EPEA	Alberta Environmental Protection and Enhancement Act
EMA	Environmental Management Act
CSAP	Contaminated Sites Approved Professionals Society
CSRA	Contaminated Sites Remediation Act
EAB	Environmental Approvals Branch Contaminated/Impacted Sites File Review
EPA	Environmental Protection Act
NCSP	Northern Contaminated Sites Program
EGMCS	Environmental Guideline for the Management of Contaminated Sites
RPRT	Règlement sur la Protection et la Réhabilitation des Terrains
EQA	Environment Quality Act
CIP	Community Improvement Plans
EMPA	Environmental Management Protection Act
LiBRe	Leadership in Brownfield Renewal
ONEIA	Ontario Environment Industry Association

1.0 Introduction

The management of brownfields continues to be an important issue for Canadians eager to clean up the tens of thousands of polluted sites across the country and to reap the socio-economic benefits of their reuse. While risks and liabilities associated with contamination severely impeded cleanup in the 1980s and 1990s, legal and procedural efforts introduced in the 2000s sought to support reuse. Many of these efforts were guided by an influential report published in 2003 by the National Round Table on the Environment and the Economy (NRTEE) entitled *A National Brownfield Redevelopment Strategy for Canada* that outlined the sustainability-oriented benefits associated with brownfields redevelopment, along with its key financial, regulatory, and political challenges. The strategy also put forward a “blueprint for action” with fourteen recommendations that advocated for public investment to address remediation and redevelopment costs, an effective public policy regime to manage liability and risk, and raising community awareness of the brownfields issue.

To honor the 15th anniversary of this influential report, the Canadian Brownfields Network (CBN) along with researchers from Ryerson University coordinated a multifaceted review to explore policy in different parts of the country, assess progress made towards achieving the NRTEE’s recommendations, identify current challenges, and recommend a path forward. This review consisted of the following three initiatives carried out between January and June 2018:

1. Supervising the preparation of a comprehensive review of federal and provincial brownfield policies and programs by a group of undergraduate urban planning students;
2. Funding and aiding in the design and administration of a comprehensive national survey of brownfield practitioners to assess the current state of the brownfields issue and progress made towards achieving the NRTEE’s recommendations; and
3. Organizing a National Brownfield Summit where practitioners from across the country could reflect on the findings of the previous two initiatives and make recommendations for moving the brownfields issue forward.

The present report summarizes the results of the initiatives above, providing an assessment of the current “state of the field” and recommendations for moving the issue forward.

1.1 Background

Brownfields are real property with perceived or actual contamination from previous use. The reuse of these properties as locations for urban intensification has become a core strategy in government sustainability efforts aimed at remediating pollution, curbing sprawl, strengthening communities, and, as noted in the UN General Assembly's *New Urban Agenda*, prioritizing renewal, regeneration, and retrofitting¹.

Nevertheless, brownfields have not always been met with optimism, but rather seen as dilapidated and toxic liabilities sometimes left underused or vacant for decades. Federal agencies and bodies, such as the Canadian Council of Ministers for the Environment (CCME), the Canadian Mortgage and Housing Corporation (CMHC), and the National Round Table on the Environment and Economy (NRTEE) became actively involved in studying the issue early on. In 1996, the NRTEE created a financial services task force and also initiated multi-stakeholder meetings across the country to gather useful information about the brownfields problem and potential solutions. It drafted several background studies and reports on contaminated site issues in Canada, addressing topics such as removing barriers for housing, the role of the financial services sector, and improving site specific data on land condition. In 2001, the Minister of Finance requested that the NRTEE formulate a national strategy, which led to the publication of their seminal report in 2003 entitled *Cleaning up the Past, Building the Future: A National Brownfield Redevelopment Strategy for Canada*. This report helped shape governmental action across the country by putting forward 14 recommendations related to three strategic directions: public investment, policy, and awareness (see Table 1).

¹ United Nations General Assembly. (2016). *New urban agenda: Quito declaration on sustainable cities and human settlements for all* (Resolution adopted by the General Assembly on 23 December 2016). New York: UN.

Table 1: The 14 NRTEE Recommendations

Strategic Direction	Recommendations	Jurisdictional Responsibility
1. Applying strategic public investments to address upfront costs	1.1 Implement tax system changes to promote brownfield redevelopment	Federal; Provincial; Territorial; Municipal
	1.2 Remove liens and tax arrears against qualifying brownfield sites	Federal; Provincial; Territorial; Municipal
	1.3 Provide mortgage guarantees for qualifying brownfield sites	Federal
	1.4 Provide revolving loans for qualifying brownfield sites	Federal; Provincial; Territorial; Municipal
	1.5 Provide grants for qualifying brownfield sites	Federal; Provincial; Territorial; Municipal
2. Establishing an effective public policy regime for environmental liability and risk management	2.1 Allow binding contractual allocation of liability	Provincial; Territorial
	2.2 Provide for termination of regulatory liability	Provincial; Territorial
	2.3 Provide for termination of civil liability after a limitation period	Provincial; Territorial; Federal
	2.4 Create an insurance fund for post-liability termination claims	Provincial; Territorial; Federal
	2.5 Apply site-specific assessment and approvals regime	Provincial; Territorial; Federal; Municipal
	2.6 Provide for regulatory approvals of remediation	Provincial; Territorial
3. Building capacity for and community awareness of brownfield redevelopment	3.1 Increase capacity to undertake brownfield	Federal; Provincial; Territorial; Municipal
	3.2 Facilitate the demonstration of innovative environmental technologies and remediation processes	Federal; Provincial; Territorial; Municipal
	3.3 Raise awareness of the benefits of brownfield redevelopment	Federal; Provincial; Territorial

Since then, professional work on brownfields has been rather informational (i.e., “how to” documents, case studies, etc.) and produced by provincial agencies and non-profit organizations like the Federation of Canadian Municipalities (FCM), the Canadian Brownfields Network (CBN), the Canadian Urban Institute (CUI), and ECO Canada. Each of these organizations has worked hard to deliver their message regarding brownfields and how to overcome the barriers to

redevelopment. But differences in geography and priority have resulted in a sense that more needs to be done to align the increasingly fragmented messaging and promote greater strategic collaboration. It has been argued, therefore, that a national strategy should be revisited and updated to reflect current drivers and barriers, as well as to help standardize approaches and procedures across the country.²

² Walsom, D. G. (2016) Are we making enough progress? *ReNew Canada* (November/December), p. 32.

2.0 Snapshots from Across Canada

Below are snapshots of key actions taken by the federal and provincial governments to support brownfield redevelopment. Each snapshot briefly describes the primary legislation, associated regulations, guidelines, and programs (note, the snapshots include titles of acts, but not a detailed review of subsections). These snapshots are adopted from a comprehensive report completed for CBN by a group of senior undergraduate students of Urban Planning at Ryerson University. The team of a dozen students conducted a comprehensive review of brownfields policies and programs in federal and provincial jurisdictions with regard to their ability to support municipal planning and brownfields development at the local level. It should be noted that the students conducted their research to the best of their abilities over a short period (January to April 2018), and while they did seek policy clarification from government agencies, most of the information was gathered via their independent review of policy and internet based resources. The full report is available at <https://www.brownfieldsresearchlab.com/portfolio-items/studio620/?portfolioCats=20>.

2.1 Federal Snapshot

The federal government has been deeply involved in the cleanup of contaminated sites since 1989 when the Canadian Council of Ministers of the Environment (CCME) and the Government of Canada negotiated with all the provinces and territories to devise a joint \$250 million, five-year, National Contaminated Sites Remediation Program (see <https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/history.html/>). This program aimed to remediate orphaned high-risk contaminated sites and support Canada's fledgling remediation technology industry. The government also began working in earnest to address their own brownfields by establishing the Contaminated Sites Management Working Group in 1995 consisting of representatives from federal departments, agencies, and Crown corporations.

The federal government launched the *Federal Contaminated Sites Action Plan* (FCSAP) in 2005, allocating an initial \$3.5 billion to both strengthen and accelerate federal efforts to identify, assess,

and remediate federal sites. A *National Classification System for Contaminated Sites* was also developed to evaluate and prioritize contaminated property into five categories for action based on their potential risk to human health and the environment; high priority for action (Class 1), medium priority for action (Class 2), low priority for action (Class 3), not a priority for action (Class N), and insufficient information (Class INS). Additional funding has been committed since to address the federal government's extensive inventory of sites and the program is reviewed on a regular basis to evaluate performance.

To assist with non-federal sites, the Government of Canada endowed the Federation of Canadian Municipalities (FCM), a non-profit organization, with \$550 million in 2000 to establish the Green Municipal Fund (GMF) that provides financing for municipal governments and their partners (an additional \$125 million top-up to this endowment was announced in 2016). The Fund supports partnerships and leveraging of both public- and private-sector funding for sustainable community development, which includes brownfield projects.

While the NRTEE continued to spread the brownfields message after the release of the 2003 report, its leadership role in brownfields and other sustainability matters ended with the elimination of its budget in 2013. The CCME continues to be engaged in scientific aspects of contaminated site management, but has little involvement in finance, development, or planning policy. The FCSAP program continues to be important for federal brownfields throughout the country and it is hoped that the program will advance to put more emphasis on leveraging broader social justice and economic development outcomes, in addition to mitigating environmental and human health risks. A recent federal action of note is the requirement that all levels of government report their contaminated site liabilities in accordance with the Public Sector Accounting Board (PSAB) standard *PS 3260 Liability for Contaminated Sites*. This should provide an opportunity for governments at all levels to identify and utilize their own brownfield portfolios to deliver more benefits to Canadians.

2.2 Atlantic Risk Based Corrective Action & Atlantic PIRI

Atlantic Partners in Risk Based Corrective Action (RBCA) Implementation, also known as Atlantic PIRI, is a joint group that aims to foster collaboration between experts and developers and apply a risk-based regulatory approach to the management of contaminated sites and brownfields. The members of Atlantic PIRI are New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island.

2.2.1 New Brunswick

The Atlantic PIRI has provided New Brunswick with a contaminated site remediation structure and a 5-year remediation plan, as the province lacks their own planning structure and funding. Provincial remediation is otherwise based on a 5-step process that is grounded in a two-tier structure, designed to distinguish and classify sites by the severity of contamination.

The Atlantic PIRI is supported by the *Guideline for the Management of Contaminated Sites* 2003, which aims to guide proper site management and creation of remediation plans. In 2008, the New Brunswick Environment Department released a *Comprehensive Plan for Brownfield Redevelopment* designed to improve the existing contaminated site registry, develop incentives for redevelopment, harmonize local approaches with neighbouring jurisdictions and improve government education on brownfields and outreach initiatives.

In 2002, site professional training sessions were initiated to educate site professionals on contaminated site remediation. In 2007, a report was produced by a *Brownfield Liability Working Group* in an effort to bring together stakeholders who share interest in brownfield redevelopment. All these documents and initiatives demonstrate provincial willingness and interest; however, effective provincial policy and funding is still limited, delaying the creation of a workable approach to brownfield redevelopment across New Brunswick.

2.2.2 Newfoundland and Labrador

Provincial legislation pertaining to brownfields and contaminated sites is provided through the *Newfoundland and Labrador Environmental Protection Act 2002* that encourages sustainable environmental development. The Act outlines actions that must be taken when dealing with a contaminated site, including the Minister's role in site designation, as well as standards and criteria development around contaminated sites.

The Act is supported by other documents, including the *Cleanup of Contaminated Sites Criteria 1997* that specifies what classifies a site as contaminated. The *Guidance Document for Management of Impacted Sites 2005* distinguishes the different tiers of contaminated sites, the action needed to address contaminated sites, and appropriate clean-up processes. Government commitment was renewed when the document was updated in 2014 with the intention to more specifically target and address present concerns.

Remediation procedures are specified through a 5-step process that is grounded in a two-tier structure, designed to distinguish and classify sites by the severity of contamination. This process has taken advantage of the Atlantic Risk-based Corrective Action standards and remediation structure, but some aspects have been refined to make it their own. In 2002, site professional training sessions were also initiated to educate site professionals on contaminated site remediation.

Newfoundland and Labrador has made sincere attempts to tackle the problem of contaminated sites as evidenced by updated guidance and an agreement from the Department of Environment that management of contaminated sites will be improved. However, student research revealed that efforts are continually challenged by a lack of available resources and funding, resulting in limited tangible action towards site remediation.

2.2.3 Nova Scotia

With the growing number of petroleum-affected sites provincially, Nova Scotia, is cognisant of the problems posed by brownfields. Currently, the *Environmental Act 1995*, represents the only

provincial legislation that describes how contaminated sites will be identified, how abandoned sites will be processed, and the value of future site redevelopment.

Provincial planning for site clean-up began in 1996 with the release of the *Management of Contaminated Sites Guidelines* that outline provisions relating to site contamination, severity, and clean up procedures. Further action is evidenced by the site professional training sessions initiated in 2003 to educate site professionals on contaminated site remediation and the recent release of a *Contaminated Sites Regulations document* in 2013 that expands on regulations from the RBCA. The goal was to establish more thorough regulations in parallel with the Atlantic Risk Based Corrective Action.

Provincial site remediation regulations are presently defined under the EA through a 7-step process that is contingent on a two-phase environmental assessment protocol that aims to collect site information and conduct intrusive site investigations. Once basic site information is submitted to the government, site professionals then identify remediation options and objectives for future development.

Despite a proper remediation structure consisting of legislation, support, and involvement from Atlantic PIRI, the student research revealed that funding remains a major obstacle to redevelopment. Indeed, funding allocations have dropped from \$750,000 in 1995 to zero in 2009.

2.2.4 Prince Edward Island

Provincially, PEI has introduced regulations around site registry, site designation, and reporting obligations that can be found in their *Environmental Protection Act*. PEI supplements RBCA efforts through various documents and guidelines. In 1999, the province released the *Petroleum Contaminated Sites Remediation Guidelines*, which have now evolved into *The New Petroleum Hydrocarbon Remediation Regulations 2006*. These regulations aim to provide specific guidance regarding the clean-up of petroleum contaminated sites across PEI. In 2009, an *Online Registry of Contaminated Sites* was released for information gathering. In 2016, the Province recorded a liability of \$2.1 million for its own sites and other properties, for which it has accepted responsibility (PEI Public Accounts, 2016). The student research revealed that while PEI

acknowledges the issue of contaminated sites, the provinces efforts are limited due to a lack of funding and incentives to drive remediation and redevelopment.

2.3 Alberta

Targeted remediation efforts in the province of Alberta began in the early 2000s with the development of enhanced policy, program, and planning practices, as well as the involvement of committed advocacy groups such as the *Canadian Fuels Association* and the *Orphan Well Association*. Much of these efforts extended from the *Alberta Environmental Protection and Enhancement Act (EPEA) 1993*, which governs the provinces brownfield efforts, specifically ownership designation and responsibilities. The EPEA outlines how best to pay for the costs of remediation and address sites through programs or other measures. These provisions, along with municipal tax exemptions and deferral opportunities mentioned in the *Municipal Government Act*, aim to enhance the provincial role in remediation. As an extension of the EPEA, remediation guidelines are outlined under the *Contaminated Sites Framework 2014*, which is updated periodically by Alberta Environment and Parks (AEP) to ensure consistent response efforts to contaminated sites. This legislation is supported closely with other documentation including the *Alberta Tier 1 and Tier 2 Guidelines 2016*, *Exposure Control Guidelines*, *Risk Management Plan Guide 2017*, and the *Environmental Site Assessment Standard*, which aim to provide flexible approaches for site-specific use while prioritizing a high standard for environmental and human health across the province. In addition, AEP will be revising the Remediation Certificate Program effective January 1, 2019 to include a site-based liability closure, which will provide relief from ongoing regulatory liability, and in turn acts as an incentive for owners to remediate historic contaminated sites. AEP also hosts the Environmental Site Assessment Repository (ESAR), an online searchable database that provides scientific and technical information about assessed and/or reclaimed sites throughout Alberta.

The overarching goal is to establish clear, successful tools through various evaluation strategies, grants, and approvals. These efforts are supported through three established local bodies; AEP, the Brownfield Coordinator, and the Municipal Development Authority, who work with proponents to remediate sites through an 8-step process. These bodies are responsible for approving

development and are involved actively in the remediation process. Remediation activities are also supported by multiple government agencies and regional advocacy groups who help engage and inform public bodies about the importance of brownfield redevelopment, and the Alberta Urban Municipalities Association, who foster policy transparency and positive private-public relations.

The student research revealed that the province has focused on creating a variety of public and private funds and programs to incentivize municipalities to tackle local brownfields while simultaneously highlighting provincial support for such efforts (e.g. certificates, funding, remediation programs, certificates and grants). The province has also attempted to address remediation through liability programs (e.g. ownership, professional, municipal), but continues to suffer from a large inventory of idle and abandoned sites.

2.4 British Columbia

British Columbia (BC) has been a leader in the development of standards and approvals for contaminated sites and brownfields since the 1980s. The *Environmental Management Act (EMA)*, enacted in 2004 as an update to the *Waste Management Act 1997*, lays out regulatory efforts specifically related to contaminated sites and remediation. Provisions of the EMA, along with associated details set out in the *Contaminated Sites Regulations* have established a framework around site identification, assessment, remediation, and liability allocation provisions, making redevelopment less risky for developers. The Ministry of Environment has continued to drive amendments to the EMA, including updates in 2017 around toxicology, water, soil and vapour standards, exemplifying their ongoing commitment and support for those pursuing cleanup and redevelopment. Contaminated sites and brownfields are tracked via a *Site Registry*, mandated under the EMA, which currently holds information on roughly 14,000 sites. BC also offers regulatory liability closure through a Certificate of Compliance (CoC), an instrument that can be registered on title. A CoC can be issued by the Director when a site meets either the numerical or risk-based standards following remediation. Issuance of a CoC demonstrates compliance with the remediation standards. A CoC will provide relief from ongoing regulatory liability, and in turn acts as an incentive for owners to remediate historic contaminated sites.

Contaminated sites are assessed under the *EMA's Contaminated Sites Regulation*, then investigated after initiation by the Ministry, through a *Contaminated Sites Application*. The Ministry of Environment administers remediation requirements for low to medium risk sites under the *Contaminated Sites Regulations* and relies on the *Contaminated Sites Approved Professionals Society (CSAP)* to approve and make site recommendations. The EMA explains what approved professionals are qualified to do, including the creation of reports, submission of documents, and classes of activities, which has increased collaboration between the government, industries, and the public. Improvements to protocols related to site risk classification and the eligibility of applications have increased the speed, reliability, and efficiency of site assessment and remediation procedures and approvals.

Provincial efforts around revitalization are supported through acts like the *Local Government Act 2015* and the *Community Charter Act 2003* that provides municipalities with the authority to support local remediation and redevelopment efforts. From 2007 to 2012, BC maintained a *Brownfield Renewal Program*, which provided more than \$4.2 million in incentives to support the remediation of 60 projects in 44 communities. The 2014 cancellation has added pressure on local municipalities to entice private development applications for contaminated sites, leading many to rely on public private partnerships to attract development.

2.5 Manitoba

Efforts to address contaminated and brownfield sites in Manitoba date back to 1996 with the creation of core policies outlined in the provincial *Contaminated Sites Remediation Act (CSRA)*. The Act aims to systematically identify contaminated sites, outline appropriate remediation efforts, and address liability principles by urging fair processes around remediation responsibilities. In support of these efforts, a provincial announcement was made in 2007 to invest \$39 million into a plan to clean up provincial contaminated sites.

The province has focused on remediation through a 6-step process that outlines methods for site assessment, risk management and planning, and relies on supporting documents like the *Submission of Remediation Plans for Impacted and Contaminated Sites* and the *Environmental Approvals Branch Contaminated/Impacted Sites File Review (EAB)*. The EAB strategically

focuses on ensuring all sites meet modern standards and is currently reviewing sites and their appropriate environmental site assessments for compliance. This EAB strategy aims to hold owners and previous consultants more accountable, while ensuring consistency in the provincial remediation process, and also to establish publicly available rules and regulations for future best practices. Remediation and redevelopment are supported through the *Manitoba Community Places Program*, which aims to offer funding for non-profit organizations acquiring sites, and to incentivize developers to invest. These efforts are supported by acceptable liability rules (e.g. professional, ownership, municipal) and regulations like the polluter pays principle, enshrined under the CSRA, along with a depository for brownfield identification.

Despite having appropriate remediation policies and processes, student research revealed that the province lacks application as evidenced by an absence of notable advocacy groups and limited steps to improve the process for remediating brownfields. This barrier makes it difficult to bring remediation efforts to the attention of the public and government, and also limits collaboration

2.6 Northwest Territories

The Government of the Northwest Territories in combination with Aboriginal Organizations, are responsible for all waste sites created post-devolution or post land claims settlement within their respective lands as indicated in the *Northwest Territories Land and Resources Devolution Agreement 2013*. Brownfields, despite minimal local acknowledgement, remain defined under the *Northwest Territories Consolidation of Development Incentive Program By-Law NO. 4534*. This by-law is supported by the *Contaminated Sites Management Policy* of 2002, which was created through extensive site research and public consultation, and aims to guide contaminated site remediation and prevention efforts. This policy document, along with the *Environmental Protection Act* (NWT EPA) 2017, intends to foster and promote a safer, healthier, sustainable environment for First Nations, Inuit, and Northerners by prioritizing the preservation and enhancement of the Northern environment (Government of NWT Contaminated Sites Management Policy, 2002).

The NWT EPA outlines site-specific response and inspection guidelines through a 3-phase environmental site assessment process. These phases, found in the NWT *Guideline for*

Contaminated Site Remediation, were designed to decipher the type and magnitude of work required for a site revitalization. They differentiate contamination issues and environmental receptor impacts (Phase I) from cost estimates (Phase II) and more extensive sites that require additional studies (Phase III). The EPA aims to ensure site liability is recorded and authorizes the Minister of Environment and Natural Resources to develop, coordinate, and administer guidelines regarding contaminated site remediation as necessary. Sites are recorded in a comprehensive, updated inventory created through the *Northern Contaminated Sites Program* (NCSP); however, this information remains inaccessible to the public. The only public site inventory is found through the Indigenous and Northern Affairs Canada: NWT Contaminated Sites, which warns that information may be inaccurate and outdated.

Most contaminated sites are long-abandoned mines and remain a liability for the Federal government. Indigenous and Northern Affairs Canada has the largest liability of all federal departments, maintaining responsibility for most federal lands in the North and for some of the largest, most complex contaminated sites in all of Canada. Provincial efforts remain focused on cleaning up federally owned, abandoned mines from the past, while development and redevelopment in the Northwest Territories is restrained because of its small population and limited market pressure.

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2.7 Nunavut

The *Environmental Protection Act* (EPA) 2010, although not official defining brownfields, marks Nunavut's first legislative attempt to regulate contaminated sites and protect the environment, while simultaneously encouraging responsible development. The EPA, along with more targeted remediation guidelines such as the *Environmental Guideline for the Management of Contaminated Sites* (EGMCS), continue to expand the province's ability to address contamination issues. Although developers are expected to practice environmental due diligence in site acquisition, guidelines like the EGMCS indicate that the Department of Environment is the key territorial agency concerning the management of contaminated sites on so-called Commissioner's Land (i.e., publicly owned and managed land).

The main goal of EGMCS is to establish consistent environmental regulations and policies to guide municipalities around environmental assessment processes, and land planning initiatives. This legislation is supported by a 3-phase environmental assessment approach for remediation. The phases are designed to guide the assessment of the degree of contamination, sample the site, and address any outstanding issues or gaps. Post environmental assessment, a remediation action plan is generated based on the severity of contamination, which includes one of three approaches: Tier 1 criteria-based approach; a Tier 2 modified-criteria approach; or Tier 3 risk-based approach.

Remediation is supported indirectly through financial efforts like the *Nunavut Economic Foundations Fund* that provides contributions for physical community assets and feasibility studies. Public consultation, especially with Inuit and First Nations communities, around best practices and environmental detriments is also a focus of remediation efforts.

Development in this territory is limited due to its small population size and remote location. Specific municipalities, with larger populations and greater redevelopment concerns have developed policies and procedures for dealing with municipal contaminated sites, such as the 2010 *City of Iqaluit General Plan By-law No.703*.

2.8 Quebec

The first brownfield related policy in Quebec surfaced in 1988 with the *Rehabilitation Policy*, which provided resources for guiding interventions on contaminated land. As a driver of Quebec policy, it demonstrated how and why brownfields represent reusable land opportunities, as opposed to delict land. Over time, more specific legislation emerged on *Brownfield Disposal* 2001 and the *Règlement sur la Protection et la Réhabilitation des Terrains* (RPRT) 2003, to guide practices around the disposal and remediation of contaminated lands. Brownfield remediation and regulation is also outlined in the provincial *Environment Quality Act* (EQA), through an overview of laws and regulations. In recognition of its ongoing commitment to remediation, the Minister has since delivered a new plan titled: *Politique de Protection des Sols et de Réhabilitation des Terrains Contaminés et Son Plan d'Action 2017-2021*, with the goal of both assessing existing policies, and outlining future changes. Through constant modification and updating, Quebec has successfully kept pace with current trends and tactics, distinguishing itself as a leader across Canada.

Quebec expedites the remediation process by empowering experts to conduct site examinations to the highest environmental standards. To be recognized as an “expert,” individuals must demonstrate to the satisfaction of the Ministries of Sustainable Development, Environment, and Fight against Climate Change, skills in the characterization and rehabilitation of contaminated land, as well as knowledge relevant to the application of the EQA. Local knowledge experts open opportunities for supporting stakeholder engagement and help uphold an accountable, efficient process, based on maintaining the highest standards. Accountability is further provided by the EQA legal requirement for municipalities to maintain a list of contaminated sites available to the public online that includes the type of contamination and any restrictions of future use.

The student review found that Quebec has had the most success with financial aid, through various programs such as the historical *Revi-Sol* program, *ClimatSol* program and the current *ClimatSol-Plus* program. The *ClimatSol* programs are reimagined variations of the original *Revi-Sol* program. These programs share in their intent to promote collaboration between private and public stakeholders, and both historically have been successful in their ability to financially support revitalization by aiding developers in the remediation process. The *ClimatSol-Plus* program for example, has a \$30 million dollar budget allocated through a so-called Green Fund that seeks to support the transport, excavation, and treatment of site contaminants. Public efforts are supported by regional advocacy groups like RESEAU Environnement, which brings together specialists to promote the advancement of technologies, science, and expertise that support remediation.

2.9 Ontario

The Environmental Protection Act of 1971 marked the beginning of Ontario’s regulatory efforts aimed at protecting the province’s natural resources by prohibiting the discharge of a contaminant into the environment that may cause adverse effects. These provisions, along with remediation procedures such as those outlined in the *Guidelines for the Decommissioning and Cleanup of Sites in Ontario* 1989, continued to evolve as pollution standards for new contaminants were added or revised. The Ministry of Environment, Conservation and Parks (MECP) had an older policy, *Brownfields Statute Law Amendment Act*, 2001, which was replaced by the *Ontario Regulation 153/04*, also known as the *Record of Site Condition Regulation* in 2004. A Record of Site Condition

(RSC) is filed with MECP to document and support assessment and remedial work. Required to undertake certain redevelopment options, an RSC provides indemnification (relief from ongoing regulatory liability) from the Ontario government to property owners. RSCs are publicly accessible in the *Environmental Site Registry* (ESR).

The main goals of the *Record of Site Condition Regulation* are to establish clearer requirements for site assessments, provide protection from environmental liability, improve environmental site condition, and oblige property owners to file a record of site condition via a ‘Qualified Person’. The legislation was amended on July 1, 2011 to require more comprehensive information regarding cleanup and land use, and to update standards for almost 120 contaminants. Risk assessment procedures were amended to give property owners a choice between using a so-called Tier 2 streamlined risk assessment, which allows for simple modifications to the models used by the Ministry to produce their generic standards, or a Tier 3 full risk assessment, which provides the widest range of options for developing standards.

Ontario’s Ministry of Municipal Affairs and Housing led provincial efforts to promote brownfields redevelopment by establishing the Office of the Brownfields Coordinator in 2005 and amending the *Planning Act 2006* to allow municipalities to create *Community Improvement Plans* (CIP) to help remediate sites within defined areas through the provision of financial incentives (e.g., study grants, loans, tax assistance, tax increment equivalent grants, municipal fee and development charge waivers). The Ministry also implemented the *Places to Grow Act 2005*, enabling the province to devise growth plans for any part of the province. The *Growth Plan for the Greater Golden Horseshoe 2006, 2017*, which covers the most populous greater Toronto and Hamilton areas, explicitly notes that the “plan envisages increasing intensification of the existing built-up area, with a focus on urban growth centres, intensification corridors, major transit station areas, brownfield sites and greyfields”.

2.10 Saskatchewan

The Contaminated Sites Liability Advisory Group established in 1997 helped provide a foundation for the development of Saskatchewan’s *Environmental Management Protection Act* (EMPA) in

2002; amended in 2010. The *Saskatchewan Environmental Code Standard 2015*, is a collection of legally binding Acts and regulations relating to the management of environmentally impacted sites.

The Ministry of Environment regulates contaminated sites typically associated with manufacturing, transportation, industrial, commercial or mining activities, however, no formal provincial program or extensive regulatory framework has been created. Informally, Saskatchewan relies extensively on the *Canadian Environmental Quality Guidelines* developed by the CCME. Brownfield redevelopment has also been targeted through guidelines and policies including the *Tax Enforcement Act 2001*, which was designed to allow municipalities to use clean-up costs as justification for the discharge of tax liens.

The EMPA (2010) outlines a remediation structure that aligns with the Federation of Canadian Municipalities (FCM) guidelines. This process includes four steps, each determining whether and what amount of remedial action is required. The approaches are distinguished in 3 tiers: Tier 1 involves directly adopting the environmental quality guidelines to remediate a site; Tier 2 allows for the creation of site-specific criteria by modifying the environmental quality guidelines based on site specific parameters (e.g., soil type) or exposure pathways; and Tier 3 employs a site-specific risk assessment approach. Despite the lack of a provincial brownfield inventory, according to the EPA, owners are obligated to report site contaminants and manage site impacts.

Based on the student research, Saskatchewan provided limited tools to aid municipalities with brownfields. However, the *Planning Act 2007* enables municipalities to create *Official Community Plans* and other planning provisions related to brownfield redevelopment. The City of Saskatoon, for instance, has created a *Vacant Lot and Adaptive Reuse Strategy* to incentivize and assist developers with brownfield projects.

2.11 Yukon

Provincial legislation does not explicitly define brownfields but refers largely to contaminated sites as defined in the *Yukon Environment Act 2014* and the *Contaminated Sites Regulations*. The Yukon's *Environment Act* notably represents the province's first legislation mandated to protect human safety around provincial land, water and air and regulate activities around hazardous waste,

and spills. The applicability of this legislation was enhanced by the *Devolution Transfer Agreement 2003* that gave the provincial government management rights over its public lands, including contaminated sites. The *Contaminated Sites Regulations* sets guidelines for all remediation and cleanup efforts in the province, notwithstanding the many that fall on federal land.

Many contaminated sites in Yukon are abandoned mines that are financial liabilities of the federal government, however, the territory is responsible for any mining damage since 2003 based on the signed *Devolution Transfer Agreement*. The *Contaminated Sites Regulation* outlines a 6-step clean up procedure to guide how contamination is identified and investigated, how information is reported, and how efforts for removal or containment are conducted. All information about sites are consolidated in an inventory accessible by contacting the Government of Yukon, Environmental Programs.

Relative to other jurisdictions, the student review noted that the Yukon has not had market pressure to remediate and redevelop sites due to their low population and scarcity of developer interest. However, they have managed to engage the public in a variety of clean-up projects that have led to millions of dollars in federal funding. The City of Whitehorse, in particular, has expressed interest in remediation and redevelopment for municipal development purposes and also supports private redevelopment through its Official Plan and other public incentives.

3.0 Student Assessment of National Brownfields Policy

Students gathered information on sixteen environmental, social, and economic factors to inform their assessment of brownfields policies and programs throughout Canada. This resulted in the jurisdictions being categorized into three distinct tiers (Upper/Middle/Lower), with Quebec, Ontario, and British Columbia perceived as having the most robust programs for supporting the brownfield development industry and local government efforts (see Figure 1 below).

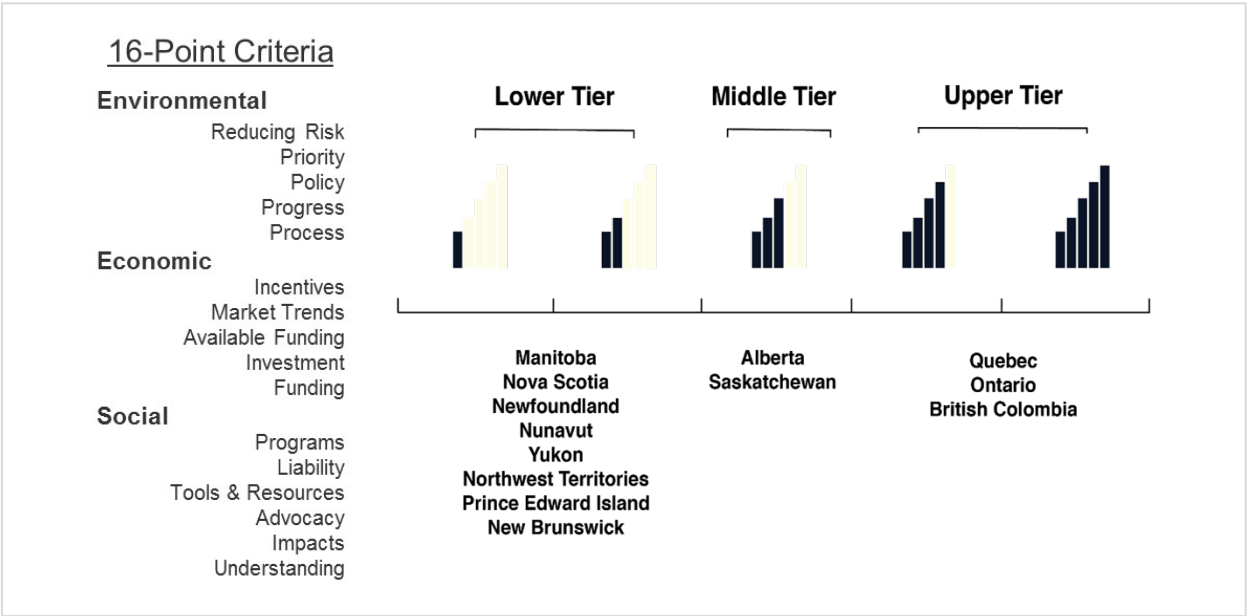


Figure 1: Student Assessment of National Brownfields Policy

The groups' recommendations for advancing brownfields policy and programs at the federal and provincial levels can be found in section 4.11 of this report.

4.0 National Survey

A comprehensive survey was designed to gather information from brownfield stakeholders on the implementation of the National Round Table on Economy & Environment (NRTEE) *National Brownfield Strategy* (2003), on current motivations and barriers to redevelopment, and on recommendations for moving the brownfields industry forward. The survey contained a mix of closed- and open-ended, grading, and Likert questions to ensure maximum validity of data. The questionnaire was edited for bias and leading questions, and was reviewed by Ryerson's Research Ethics Board. A draft survey was circulated to members of the CBN Board to ensure that questions were clear, concise, and that all major topics were covered. Five test surveys were completed, and the feedback was used to further edit the survey for style, brevity, and ease of completion.

The survey was distributed from February to April 2018 via email to public, private, and non-profit stakeholders involved in brownfields. Given that there is no comprehensive national list of brownfield practitioners, recruitment of participants was carried out via snowball methods, also known as network/chain referral. This multi-staged technique involved asking initial respondents, including CBN members, to actively recruit additional respondents. In addition, internet research was conducted to identify municipal brownfield coordinators and other businesses involved in brownfield remediation and redevelopment. Partner environmental organizations were also asked to email and advertise the national survey to their members.

4.1 Who Responded

Overall, the online survey was completed by 80 practitioners with a combined experience in 6,454 brownfield projects. The practitioners represent various aspects of the brownfields sector and can be categorized as follows:

- Environmental/Engineer/Geoscientist Consultants (29 respondents) – members of companies providing direct and onsite services for redevelopment and remediation, such as soil testing or planning;

- Government (26) – officials working on brownfield planning, policy, remediation, and other issues at the municipal (20), provincial (5), and federal (1) levels;
- Non-profit (4) – members of not for profit entities involved in the promotion, cleanup, or development of brownfields;
- Lawyer (4) – members of companies and organizations providing indirect services for redevelopment related to legal protection;
- Developer (3) – members of the development community and related organizations active in remediation and redevelopment;
- Financial and Insurance Services (4) – members of companies and organizations providing indirect services for redevelopment related to financing and insurance;
- Landowners (1) – members of organizations divesting in surplus properties, including the energy sector; and
- Other (17) – Industry, waste management, academia, transit.

The survey was completed by stakeholders working in every province, with most operating primarily in Ontario (45), British Columbia (12) and Alberta (9). The geographic scope of their work was more diverse with 23 working primarily at the provincial level, 22 local, 15 national, 12 regional, 5 multi-jurisdictional, and 3 international. About one third (31) of the respondents noted being a member of a non-profit involved in promoting brownfield redevelopment (e.g., CBN, FCM LiBRe, ONEIA) or a local multi-level government/other brownfield partnership (29). The majority of respondents also stated that brownfields redevelopment was a medium (50%) and high (35%) priority for their organization.

4.2 Motivations

Practitioners were asked in open- and closed-ended formats about the factors that motivate and/or attract them or their organization to be interested and/or involved in the remediation and redevelopment of brownfields. The open-ended question requested their top three to five factors. As eluded to in the word cloud (see Figure 2), most are motivated by environmental, community, and sustainability-oriented factors, followed by economic and business opportunities. Other key

motivations include the management and repurposing of impacted lands and government regulation.



Figure 2: Brownfield Motivators Word Cloud

When asked in a closed-ended format to rate a list of motivations/benefits on a Likert scale (ranging from highly unimportant [1], not important [2], neutral [3], somewhat important [4], very important [5]; or not applicable/no answer), all responses averaged neutral or higher. The most important motivations according to all respondents (see Table 2 below) were to protect public health and safety (4.6), reduce contamination and protect soil & groundwater (4.5), and conform to environmental regulations (4.5). The most highly ranked motivations relate to managing risks, liabilities, and stigmas associated with contamination, followed by various location-based factors for development being considered somewhat important. Interestingly, property ownership issues appear to have a neutral motivational effect.

Table 4: Brownfield Motivators Results

Rank	Motivator	Score
1	To protect public health and safety	4.55
2	Reduce contamination and protect soil & groundwater	4.51
3	Conform with Environmental Regulations	4.49
4	To mitigate future liability	4.46
5	Remove negative stigmas from affected communities	4.07
6	Restore the site (biological & hydro functions)	4.04
7	Access to Infrastructure & Utilities	4.03
8	Maximize Profit from Sale/Redevelopment	3.95
9	Proximity to Downtown/Central Core	3.94
10	Proximity to Commercial/Employment areas	3.86
11	To divest Liability/costs	3.83
12	Proximity to Residential Areas & Amenities	3.83
13	Take advantage of devalued BF properties	3.78
14	Location in/near hot real estate market	3.73
15	To create/retain employment opportunities	3.70
16	Available Government support & assistance with BF	3.65
17	Increase access to affordable housing	3.55
18	To restore the tax base of government	3.50
19	Private ownership of a site	3.39
20	Municipal Government ownership of a site	3.38
21	Provincial/Federal Ownership of a Site	3.17
22	Avoid high development charges levied on Greenfields	3.08
23	To promote Canadian Cleanup Technology	3.04

4.3 Barriers

Practitioners were asked in open- and closed-ended formats about the barriers affecting their ability to remediate and redevelop brownfields. When asked to list their top 3 to 5 barriers in an open-ended format, most responses focused on the cost of remediation relative to land values and a lack of funding support. Other key themes related to challenges with provincial and municipal regulations/approval processes, uncertainty regarding risk assessment and liability, a limited

Table 7: Government Brownfield Barriers Results

Rank	Government Barriers	Score
1	Slow timelines for ministry responses to BF submissions	4.53
2	Lack of political will & awareness of BF issues	4.42
3	Lack of regulatory liability closure mechanism	4.30
4	Limited provincial budget to address brownfields	4.22
5	Limited government administrative resources	4.22
6	Lack of proactive BF management strategy	4.19
7	Incompatible requirements between Municipal & Provincial governments	4.18
8	Limited Municipal Budget to address brownfields	4.14
9	Government perception that BF development is a private sector issue	4.14
10	Need for capital/infrastructure improvements	4.08
11	Limited Federal budget to address brownfield	4.03
12	Inter-jurisdictional complications	3.99
13	Lack of site inventories	3.58

In terms of development barriers, the concerns were “upside down” costs (where cleanup costs are higher than the value of the land) (4.8) or high remediation costs (4.7), followed by more contamination than expected on the property (4.5) or adjacent to it (4.5). Slow government reviews associated with assessment, cleanup, and planning were also highlighted because they add to project duration (see Table 4 on the following page).

Table 10: Development Brownfield Barriers Results

Rank	Development Barriers	Score
1	"Upside down" remediation Costs	4.77
2	High Remediation Costs	4.71
3	More contamination than expected/surprise costs	4.53
4	Potential impacts to adjacent properties	4.50
5	Slow regulatory review, uncertain timelines & delay	4.45
6	Liability concerns offsite	4.44
7	Longer project duration than expected	4.43
8	Slow land use planning approval process	4.35
9	Obtaining Financing	4.33
10	Civil liability risk	4.32
11	Stringent remediation requirements	4.23
12	Environmental regulations	4.23
13	Liability concerns onsite	4.22
14	Uncertainty related to site-specific risk assessment	4.19
15	Limited administrative recourses to respond to government	4.17
16	Limited access to insurance protection	4.10
17	Lack of government incentives/supports for site cleanup	4.10
18	Lack of Municipal BF Experience or Expertise	4.06
19	Lack of remediation/disposal options	4.03
20	Weak/no market for real estate	4.03
21	Lack of government incentives/supports for site assessment	4.00
22	Lack of government incentives/supports for infrastructure & development	4.00
23	Lack of knowledge/negative attitude/opposition on the part of stakeholders	3.99
24	Stigma associated with BF properties	3.99
25	Lack of knowledge/negative attitude/opposition from the public	3.97
26	Restrictive zoning	3.96
27	Complex/outdated municipal land-use policies	3.96
28	Property ownership issues	3.86
29	Lack of information on the history of sites	3.56
30	Competitive bidding process	3.56

4.4 Assessment of NRTEE Recommendations

As outlined in Table 1, the NRTEE's National Strategy proposed 14 recommendations in three strategic directions for various levels of government to implement (n.b., a blank space means that the NRTEE did not allocate responsibility to that level of government for implementing a specific recommendation). Respondents were asked to grade how well the different levels of government have performed using the following rubric (A=Excellent, B=Good, C=Satisfactory, D=Marginal, F=Unsatisfactory).

In all, grades were rather low for all recommendations and all levels of government; ranging from a high of C+ down to F, with most grades in the D range (see Tables 5 to 7 below).

The poorest performance overall relates to the NRTEE's recommendations associated with the critical area of applying strategic public investments to address upfront costs. Respondents felt that the federal government had made some marginal progress in providing loans and grants for qualifying brownfield sites, but that their performance was unsatisfactory in terms of making tax system changes, removing liens and arrears, and providing mortgage guarantees to support cleanup and redevelopment. Provincial and municipal governments were perceived to be making marginal progress on all factors, except in the case of the provision of loans by provinces.

Table 13: NRTEE Investment Recommendation Results

NRTEE Recommendations & Actions		Federal	Provincial	Municipal
1. Applying strategic public investments to address upfront costs	1.1 Implement tax system changes to promote brownfield redevelopment	F	D	D+
	1.2 Remove liens and tax arrears against qualifying brownfield sites	F	D	D
	1.3 Provide mortgage guarantees for qualifying brownfield sites	F	-	-
	1.4 Provide revolving loans for qualifying brownfield sites	D	F	D-
	1.5 Provide grants for qualifying brownfield sites	D	D-	D+

The results are varied in regard to the critical area of establishing an effective public policy regime for environmental liability and risk management. Provincial governments are seen to be making satisfactory progress in establishing a regulatory regime for site specific risk assessment and remediation. While they are perceived to be making marginal progress in providing for the termination of regulatory liability and allocation of liability, they are making unsatisfactory progress with civil liability, and have not established an insurance fund for post-liability claims. The federal level is perceived as having made marginal progress in site specific assessments and approvals, but not in relation to civil liability or insurance. The municipal level is perceived to have made marginal progress in both site-specific assessment and approvals regime and the provision of regulatory approvals for remediation.

Table 16: NRTEE Policy Recommendation Results

NRTEE Recommendations & Actions		Federal	Provincial	Municipal
2. Establishing an effective public policy regime for environmental liability and risk management	2.1 Allow binding contractual allocation of liability		D	
	2.2 Provide for termination of regulatory liability		D+	
	2.3 Provide for termination of civil liability after a limitation period	F	F	
	2.4 Create an insurance fund for post-liability termination claims	F	F	
	2.5 Apply site-specific assessment and approvals regime	D	C+	D+
	2.6 Provide for regulatory approvals of remediation		C+	D+

All levels of government were seen to be making marginal progress in varying degrees with the critical area of building capacity for, and community awareness of brownfield redevelopment. These include increasing capacity to undertake brownfield projects, facilitating the demonstration of innovative environmental technologies and remediation processes, and raising awareness of the benefits of brownfield redevelopment.

Table 19: NRTEE Capacity & Awareness Recommendations Results

NRTEE Recommendations & Actions		Federal	Provincial	Municipal
3. Building capacity for and community awareness of brownfield redevelopment	3.1 Increase capacity to undertake brownfield	D-	D	D+
	3.2 Facilitate the demonstration of innovative environmental technologies and remediation processes	D	D	D-
	3.3 Raise awareness of the benefits of brownfield redevelopment	D	D+	

Practitioners were also asked to evaluate progress made generally on implementing the forty-three tools outlined by the NRTEE in its expanded policy toolkit for brownfield redevelopment (Likert scale = significantly worse [1], somewhat worse [2], no change [3], some improvement [4], and significant improvement [5]). These tools are organized into five categories (some tied to the three critical areas), including: financing incentive tools; environmental provisions; marketing, training and economic development; institutional capacity building; and planning and incentives. Respondents felt that there was slightly more than some improvement (scoring > 4) made on only four of these suggested tools (scored over 4 on the Likert scale), with three related to environmental issues such as risk assessment, site investigation, contaminated sites policies, and one being internet sites and conferences dedicated to brownfield redevelopment. The rest of the tools are positioned between no change and some improvement, with no discernable difference between the five categories. Fortunately, progress on none of the issues was perceived as getting worse (see Table 8 on the following page).

Table 22: NRTEE Suggested Policy Toolkit Results

Rank	NRTEE Suggested Policy Toolkit	Score
1	Regulated risk assessment standards & risk management	4.12
2	Regulated site investigation standards	4.07
3	Internet sites and conferences dedicated to BF redevelopment	4.04
4	Contaminated sites policies, legislation and regulations	4.01
5	Private sector advertising of service related to its BF	3.90
6	Brownfield education and training programs	3.87
7	Tax increments-based municipal grant program	3.83
8	Municipal Grants & Loans within community plan	3.78
9	Brownfield projects showcased in government publications	3.75
10	Mixed use policies	3.75
11	Post-secondary education focused on the planning, environmental, and business aspects of brownfield cleanup and redevelopment	3.73
12	Registry systems for sites that have been cleaned up	3.73
13	BF policies in planning documents	3.69
14	Mechanism for municipal incentive programs	3.66
15	Contaminated & environmental sites registry system	3.62
16	Public consultation process from BF planning	3.60
17	Flexible parking and building regulations	3.57
18	Development charge exemptions and reductions	3.56
19	Performance measurement and monitoring	3.56
20	Contaminated sites inventory	3.54
21	Firm urban boundaries	3.54
22	Density bonusing	3.52
23	Tax relief for cleaning up contaminated properties	3.51
24	Infrastructure programs	3.51
25	Compact urban form programs	3.49
26	Government support for new remediation technology	3.42
27	Review of Statutes of limitations provisions re liability	3.41
28	Historical use Inventory	3.41
29	Partnerships between levels of government to increase awareness of BF	3.38
30	Reduction or waiver of planning fees	3.36
31	Accountability mechanisms to ensure quality cleanup	3.36
32	Heritage conservation grants of loans	3.35
33	Development permit system/areas	3.34
34	Property tax freeze and cancellation	3.33
35	Immunity provisions from government administration orders	3.31
36	Streamlined approvals process & improved decision-making process	3.31

37	Aligning the environmental approvals process with the planning process	3.30
38	Flexible parkland dedication requirements	3.29
39	Flexible zoning requirements	3.27
40	Tax arrears cancellations	3.26
41	Insurance programs for cost-capping and civil liability protection	3.24
42	Power-of-entry rights to perform environmental site assessments on lands	3.21
43	Provincial contaminated sites grant program	3.12

5.0 Recommendations for Moving Forward

Recommendations for moving the brownfields agenda forward emerged from all three initiatives supported by CBN, although those from the national survey and CBN summit will be highlighted. Recommendations will be summarized by sector to avoid repetition and duplication.

5.1 Federal Government

Recommendations for the federal government mainly focused on funding. Although summit participants applauded the federal FCSAP program and the Green Municipal Fund administered by FCM, both summit participants and 74% of survey respondents highlighted the need for more funding, as well as the need to ease requirements and broaden eligibility for funding (particularly for the private sector).

Other key federal recommendations from the survey and summit include:

- Better coordination and collaboration among all levels of government to align regulatory approaches and share technical expertise;
- Increasing public awareness through better communication and promotion of federal brownfield efforts and success stories; and
- Identification of federal brownfield sites that could be divested to provincial and local governments in order to facilitate redevelopment and unlock community benefits.

Many survey respondents also felt that the absence of a national brownfield strategy affects Canada's ability to promote brownfield redevelopment because it affects regulatory consistency between provinces and territories, limits support/assistance for provincial and municipal governments, diminishes funding, and lessens public awareness.

5.2 Provincial Government

Recommendations for the provincial governments focused on two key areas:

1. Increasing funding to support brownfields assessment, remediation, and redevelopment activity (particularly for weaker markets), as well as to boost provincial review staff and improve training; and
2. Streamlining and expediting the regulatory approvals process via a more transparent, centralized, and personalized “one-window” approach that is more aligned nationally.

Summit participants also recommended increasing support for municipal governments and qualified remediation practitioners; taking a more holistic development approach that links brownfields to other socio-economic and environmental objectives (e.g., affordable housing, economic development); and inventorying sites to better understand the scale of the problem/opportunity.

5.3 Municipal Government

Recommendations for municipal governments focused on two key issues:

1. Increasing funding and incentives (i.e. tax breaks, faster approvals, lower development charge rates etc.) to support brownfields assessment, remediation, and redevelopment activity, as well as for municipal involvement and dedicated staffing; and
2. Improving education, awareness, and outreach within municipal council, bureaucracy, and communities generally.

Recommendations from the summit also focused on improving collaboration and alignment among all levels of government to make municipal approaches more consistent and to facilitate municipal management and leadership, regardless of their location, size or market. Participants also noted improving municipal understanding and comfort with risk assessment.

5.4 Environmental Consulting Sector

Throughout Canada, the bulk of the responsibility for site assessment and remediation falls to the consulting sector made up of engineers, geoscientists, and other professionals. Four key recommendations for this sector emerged from the national survey:

1. Encouraging the use of risk management approaches for site assessment and corrective action, particularly in an effort to deal with pollution issues on-site as opposed to exporting those issues elsewhere;
2. Lobbying for the development and application of new technology;
3. Requiring a formalized process to ensure better education and appropriate skillsets for those overseeing assessment and remediation (i.e., Qualified Professionals); and
4. Embracing a deeper and more holistic understanding of the brownfield issue that considers broader socio-economic and environmental objectives beyond just pollution issues at the site.

5.5 Development Sector

Given that the vast majority of brownfields in Canada are cleaned up and redeveloped by the development sector on a voluntary basis, a key recommendation made by survey respondents pointed to the development sector playing a more prominent role in education and knowledge translation. Specifically, respondents recommended that developers be more involved in helping local governments; educating stakeholders about barriers and solution strategies (e.g., consultants, governments, communities, and other developers); lobbying for support to facilitate redevelopment; and sharing lessons learned. Respondents also recommended that developers broaden their outlook to focus less on site-specific profit and more on improving the urban environment.

5.6 Legal Sector

Given ongoing concerns expressed by survey respondents over liability, they recommended that the legal sector continue to advise government on law and policy to improve liability closure, transfer and protection. Respondents also recommended that the legal sector help create plain-language guidance documents for understanding and managing liability and help find more secure legal mechanisms to encourage brownfield owners to undertake remediation and reuse. Cheekily, several respondents also suggested that lawyers charge less for their time.

5.7 Finance & Insurance Sector Recommendations

Many respondents felt that the finance and insurance sector had made progress on the brownfields issue over time, but could continue to progress further by becoming more knowledgeable and comfortable with risk-based approaches. The sector could also lower rates directly or by partnering with government and consider ways to foster social responsibility and value.

5.8 Federation of Canadian Municipalities (FCM)

In order for FCM to advance brownfield redevelopment, many respondents recommended that it focus on two main issues:

1. Funding – lobbying to increase brownfields funding, allowing the funds to be used for a wider range of projects and project phases, broadening eligibility for funding, and making funds simpler to access;
2. Education – continuing and expanding the municipal LiBre program, as well as increasing public, stakeholder, and government awareness of brownfields value, barriers, and best practices.

5.9 Academic Sector

Survey respondents recommended the need to advance research on technical/scientific aspects of cleanup technology and on planning/policy issues. Respondents wanted to see the academic sector partner with professionals to study practical issues, including technological demonstrations, multiplier effects of reuse and redevelopment, as well as case studies of best management practices, success strategies, and lessons learned. Several also suggested that courses on brownfields be offered and that brownfield issues be integrated into other classes to increase knowledge and raise awareness.

5.10 Canadian Brownfields Network

The survey posed several direct questions related to CBN's accomplishments as a national brownfields organization (which established based on recommendations made in the 2003 NRTEE report) and recommendations for strengthening the organization. A small majority (55%) felt that CBN had succeeded in its mandate, particularly in relation to bringing stakeholders together, disseminating information on best practices, and promoting the brownfields sector. Others felt that CBN has not yet succeeded (37.5%, 7.5%NA) but is a work in progress because it needs to do more to strengthen its voice across the country and political influence. Several said that CBN would need additional funding and support from government to strengthen and expand its efforts.

As for whether CBN should be more engaged in research, most (50%) felt that it should not conduct research directly due to a lack of funding and capacity as a voluntary organization, but rather disseminate relevant research provided by scientists. Those who felt that it should be more involved in research (39%; 11%NA) recommended an array of work on policy effectiveness/comparisons, remediation techniques to meet development goals, case studies of best practice, and GIS inventories; although no specific focus area stood out.

Survey respondents recommended that CBN improve outreach across the country, particularly with regulators and practitioners outside of Ontario (see Figure 4). To do this, they suggest continuing to host the annual conference, holding events at existing partner conferences and with

professional associations (planning, real estate, landscape, engineering), and hosting inexpensive breakfast sessions or webinars so more consultants and practitioners could attend. Additionally, it was recommended that CBN prepare fact sheets for different stakeholders and expand the use of social media to help promote CBN and brownfields.



Figure 4: CBN Recommendation Word Cloud

5.11 Other Issues

Other brownfield issues addressed by survey respondents and practitioners attending the summit were inventories, social impacts, and innovation.

5.11.1 Brownfield Inventories

Brownfield inventories have always been a controversial issue for practitioners. Some of the main arguments in favor of an inventory identified in the national survey are that it could be a good information source for various stakeholders, raise public awareness, identify opportunities for remediation and redevelopment, and aid in funding allocation. Summit participants also identified advantages for multiple stakeholders, including developers (i.e., distinguishes sites with access to financial incentives; less time to investigate; more efficient, quick, up-to-date information), governments (i.e., improved tax base; attracts investors; helps allocate resources; identifies opportunities; better understand financial liabilities and risks), and the public (i.e., provides sites for temporary use during remediation; transparency; lobbying groups can target specific responsible parties).

Survey respondents and summit participants worried, however, about the stigma, reputational risks, and liability associated with registering a property, as well as the challenges associated with assembling, funding, and operating an inventory and potential exposure to Ministry remediation orders (see Figure 5 on the following page). There were also concerns that developers would experience delays due to increased public involvement and other negative consequences associated with out-of-date or inaccurate information.

Although the national survey ranked “the lack of site inventories” as the least impactful government barrier (score of 3.6), 70% of respondents felt that the implementation of a national and/or provincial brownfield inventory would be a benefit to Canada (30% answered no). Summit participants recommended the following:

- CBN create guidelines on how to best record, collect, and share data by and between property owners and provincial governments;
- That mandatory reporting requirements be established (but this would require a change in regulation that would likely be legally challenged);
- Inventories focus on government owned sites rather than private ones; and
- Provinces be made responsible for implementation and involve land owners in data collection.

- Implementing community engagement, greater developer involvement, education, and economic benefits, among citizens, journalists, municipalities, youth, middle age, elderly, and local organizations.

5.11.3 Innovation

As for brownfields and innovation, summit participants felt innovation could help make brownfield remediation cheaper, faster, easier, less environmentally impactful, and more socially acceptable. That said, they felt innovation is being impeded by a lack of strong central leadership, too many overlapping regulations, and the high cost of innovation without government funding. Recommendations for advancing brownfields innovation from the summit group participants included:

- Harmonizing regulations and policy, which may result in a broader acceptance of contaminated lands, funding certainty, parity with a greenfield land, and creation of efficient timelines;
- Improving social acceptance through education;
- More funding and incentives from the government to encourage a wide-range of remediation and redevelopment innovations, as well as collaborations between academics and industries, pilot projects, and sustainable development;
- Streamlining process to provide a one-window approach, allow liability to rest with the environmental professional, and insurance to cover any omissions or errors.

5.11.4 Ryerson University Student Recommendations

The urban planning student group made several nationwide recommendations and also used best practices from across the country to recommended policies and programs that they felt would epitomize an “optimal province” in terms of supporting brownfields remediation and redevelopment (see Table 9 on the following page).

Table 9: Ryerson Studio National Recommendations

Features of an “Optimal” Province	Nationwide Recommendations
• Accessible Site Depository (e.g., Federal Government and Quebec) • Provincial Funding Programs (e.g., Provincial- Quebec, Municipal- Hamilton, Ontario) • Expert System (e.g., Quebec, British Columbia) • Speed of Process (e.g., British Columbia) • Updated Policies and Guides (e.g., Quebec, British Columbia) • Presence of Advocacy Groups (e.g., Alberta)	1. Strengthen dedicated brownfield society 2. Ensure all information is bilingual 3. Create a developer friendly guide on site remediation 4. Enhance public information and understanding 5. Make funding more accessible (public and private) 6. Create of a Federal Remediation Department 7. Standardize rules, processes, and practices across Canada 8. Publicly accessible brownfield inventories at all levels 9. Greater public involvement (early in the process) 10. More exchange of ideas

6.0 Concluding Remarks

While the remediation and reuse of brownfields continues to be an important issue across the country, the research and consultation activities undertaken for this report clearly reveal that the issue and its management efforts are in need of renewal. One of the major themes that emerged throughout the research process was the need to reignite interest about brownfields by re-educating all stakeholders on its wide range of benefits. Although regulatory processes for assessment, remediation, and planning have evolved since the NRTEE's seminal report to provide a more consistent and secure (albeit complex and time-consuming) framework for landowners, developers, and project consultants to follow site-by-site, it seems that we have forgotten about the bigger-picture benefits regarding the revitalization of communities, economies, and environments affected by blight, deindustrialization, and contamination. Support from upper levels of government appears to have “rusted” and patchy leadership, technical assistance, and funding makes it increasingly difficult to support the education and promotion of brownfields and brownfield networks. While the hope for a national strategy was put forward by many stakeholders as one way to reignite interest, restore funding and provide a more consistent regulatory approach across the country (see Figure 6), the other recommendations provided by the student researchers, survey respondents, and summit participants also provide viable and valuable actions for stakeholders to take in order to maintain and renew interest on brownfields for the sake of our fellow Canadians.



Figure 6: National Strategy for Brownfields Word Cloud