SDTC CORPORATE PLAN SUMMARY
2019/2020
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About SDTC

Sustainable Development Technology Canada (SDTC) was created by the Government of Canada to identify and support Canadian companies with the potential to become world leaders in developing new environmental technologies.

SDTC is an independent federal foundation that funds companies with the potential to transform the environmental and economic prosperity of Canada. SDTC’s support and championing of Canadian entrepreneurs – in the form of funding, knowledge and ecosystem connectivity – makes a difference in today’s hyper-competitive global market for clean technologies. By taking a pan-Canadian approach, in partnership with the best peers and experts, we are the benchmark for sustainable development innovation programming globally.

SDTC is a flagship program, and our funding of Canadian entrepreneurs has created jobs, growth, and long-term prosperity for Canada. SDTC is a lean organization with a big impact. Since its inception, SDTC has invested over $1 billion in more than 300 companies, creating 11,000 jobs. Our companies have reduced greenhouse gas emissions by an estimated 13.8 megatonnes annually.¹ SDTC’s efforts have been focused on small- and medium-sized enterprises, recognizing that this is where we can make the biggest impact. Our funding gives companies the critical boost they need to advance their projects in the challenging stages of pre-commercial development and demonstration.

Accountability to Parliament

SDTC is accountable to Parliament through the Minister of Innovation, Science and Economic Development Canada.

Governance is provided by an independent Board of Directors consisting of private and not-for-profit sector leaders from across Canada. Board oversight includes accountability for the management of SDTC’s financial matters, strategic direction, portfolio investment, and business affairs. A list of current Board members can be found at www.sdtc.ca.

Mission

Our mission is to identify and fund Canadian companies developing and demonstrating new technologies with the potential to transform the environmental and economic prosperity of Canada. With our support and funding, we help accelerate their efforts to become global leaders in their field.

To achieve our mission in 2019/20 SDTC seeks to:

• Fund the development and demonstration of new sustainable development technologies;
• Lead the development of innovative collaborations across sectors;
• Facilitate the roll-out of new sustainable development technologies across key environmental and economic sectors in Canada.

In 2019/20 we have ambitions to make trailblazing progress with our Investment Strategy and our IP and Data Strategy. We are also uniquely placed to capitalize on our network of pan-Canadian entrepreneurs with our Partnership Strategy.

¹This reduction signifies a snapshot in time. The technologies SDTC invests in have multi-year benefits that accrue over time.
What sets us apart?

The Government of Canada created SDTC to be different than other programs. In this way, it has developed a series of business attributes that allow it to deliver value that others cannot.

1. Client-centric approach

While we technically fund projects, we think of ourselves as funding companies who are attempting to do extraordinary things. This means we spend a lot of time getting to know the people who are instrumental to making those companies successful – entrepreneurs, financiers, policymakers – and thinking about what we can do to support their collective success.

2. Rigorous and innovative processes

SDTC is recognized for the rigorous processes it has in place for the management of taxpayer funds. Also for our leadership in the measurement of environmental outcomes. Our goal is to continuously seek out best practices to continue this leadership.

3. Pure player, recognized expertise

At SDTC we do one thing: support Canadian companies with the potential to become world leaders and global champions in the development of clean technologies. Our due diligence and expertise are often relied upon by our federal and provincial government partners in their decision-making. We also have a unique and independent governance model.

2018/19 Corporate Goals and what we have achieved

To help Canadian companies compete, SDTC transformed its operations to keep up with the pace of business. We are committed to providing our companies with the support they need when they need it. Our approach is to be simple, streamlined, and scalable. In the last three years, faster decision-making has led to a 40 per cent increase in investments and disbursements.

With staff located across Canada, SDTC investments have touched all key sectors of the Canadian economy, including the agriculture, mining, transportation, construction, oil and gas, and waste management sectors. Innovative companies that we support are changing the way business is conducted by harnessing the power of big data, high-performance computing, sensors and the industrial internet of things, advanced materials, and a range of other emerging technologies. In doing so, they are paving the way for sustainable growth by reducing environmental impacts and creating an economic impact. For example, several SDTC companies are developing precision farming practices, helping boost crop yields while reducing energy, water, and chemical use.

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2 Treasury Board Secretariat’s horizontal review of 90+ business innovation and clean technology programs across the Government of Canada (2017).
3 Report of the Commissioner of the Environment and Sustainable Development to Parliament, the Commissioner (Fall 2017).
4 Ibid.
A summary of progress made on the short- and medium-term goals submitted in the 2018/19 Corporate Plan are included in the table below.

<table>
<thead>
<tr>
<th>CORPORATE GOALS</th>
<th>PROGRESS</th>
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</table>
| Efficient operational management | ✓ G&A of 11% of funds allocated per year, as compared to 29% on average across all federal innovation programs<sup>6</sup>  
✓ Improved and streamlined application and processes  
✓ Revised approach to the treatment of capital equipment for program recipients, to the benefit of applicants  
✓ Initiated annual 'look back’ process to integrate lessons from projects that have succeeded and failed  
✓ Expanded funding envelope to support a better transition to other Government of Canada, BDC, and EDC programs  
✓ Focused on regional strategy and built provincial partnerships  
✓ Piloted new methods of data collection  
✓ Developed regional strategies based on local capacity and needs  
✓ Implementation of risk-based management approach for approvals and disbursements resulting in more effective and efficient practices and reduction in administrative burden |
| Approvals (forecast to March 31, 2019) | ✓ $147M in approvals  
✓ 35-40 projects approved  
✓ Streamlined application process, with a baseline from submission to approval of five months.  
✓ Expanded funding envelope to better support scale-up companies |

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<thead>
<tr>
<th>CORPORATE GOALS</th>
<th>PROGRESS</th>
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<tbody>
<tr>
<td><strong>Project Disbursements</strong> (forecast to March 31, 2019)</td>
<td>$92M in project disbursements</td>
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<td></td>
<td>146 projects under management</td>
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<td>36 projects closed during the year</td>
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<td>Timelines for claims processing and contracting reduced by 7% and 13% respectively</td>
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<td>Contract changes to support National IP Strategy</td>
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<td><strong>Centre of knowledge for the sector</strong></td>
<td>Added in-house economic and financial analysis capability</td>
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<td>Established strategic partnership with Statistics Canada</td>
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<td>Leadership summit on cleantech data with over 70 CEOs in attendance</td>
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<tr>
<td></td>
<td>Leadership summit focused on supporting investment strategy and IP and data strategy</td>
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<tr>
<td></td>
<td>Review of IP relationships between recipients and partners</td>
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<td></td>
<td>Developing pilot projects with key government departments</td>
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<td>Cross-Canada workshops on intellectual property strategies for SMEs in partnership with ISED and the Canadian Intellectual Property Office</td>
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<td>CORPORATE GOALS</td>
<td>PROGRESS</td>
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<tr>
<td>Team Canada approach</td>
<td>✔ SDTC reviewed 186 applications from federal funding calls, totaling over $1B in funding requested. 72 applicants demonstrated a potential fit with SDTC criteria and were brought into SDTC’s process for further review.</td>
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<td>✔ Over $133M during calendar 2018 in follow-on scale-up support for SDTC companies from BDC and EDC</td>
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<td>✔ Support of Standards Council of Canada cleantech standards-setting processes</td>
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<td>✔ Support of Fisheries and Oceans study on alternative technologies for aquaculture, including land and sea-based closed containment</td>
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<td>✔ Over $35M in provincial leveraged funds from BC, AB, ON, and QB (forecast to end of fiscal year)</td>
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<td></td>
<td>✔ Dedicated staff support to Government of Canada’s newly established Clean Growth Hub, a whole-of-government focal point for clean technology</td>
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Our Future

Over the last ten years, the world has witnessed a global acceleration of clean growth and digital disruption in all sectors. This acceleration has resulted in significant new, often state-driven, pools of funding that favour domestic entities but target global markets. It has also resulted in a clash in intention and rules as nations attempt to meet the requirements of international environment and climate commitments and those of free trade.7

The leaders in this shift from “fighting climate change” to “dominating the new economy” are China and the U.S. Each has built sophisticated cleantech industries by taking a deliberate and systematic approach that begins with the subsidization of research and development, while at the same time following through to ensure their companies own their intellectual property (IP), which is a precondition to commercializing and scaling up their technologies and freedom to operate globally. The success of these public-private frameworks, as well as their willingness to defend them through the use of direct trade barriers, is in evidence today, for example, in the area of solar energy where several SDTC companies have been impacted in this trade dispute.

At the same time, the impact of data, machine learning, and artificial intelligence are playing an increasing role. Last year, the U.S. trade office reported that the volume of data flows had grown by 1,200 per cent over the past decade. At SDTC, we have seen a significant increase in data-enabled cleantech project applications and approvals.

Successful innovation economies offer many lessons for Canada. Our entrepreneurs and public policy community have been working hard to better understand the competitive landscape faced by cleantech companies as they scale-up in the knowledge-based, data-driven economy and develop pragmatic solutions that work for Canada.

Scale-up. IP. Data. These were the themes of SDTC’s first three Cleantech Leadership Summits, and we are proud to have been at the forefront of these discussions. Our 2019 plans are to better catalyze and harness whole-of-government opportunities to support Canada’s best cleantech scale-ups in this challenging global environment.

Three-Year Focus

SDTC has made significant changes to its investment strategy, IP and data strategy, and partnership strategy and the results, as summarized in the section 2018/19 What We Have Achieved, have been overwhelmingly successful.

Investment Strategy

SDTC’s new investment strategy is anchored in a deep understanding of how technology project investments support the growth of Canadian companies that are continuously developing and growing a robust environmental technology ecosystem. The goal is to maximize environmental and economic value with a moderate level of risk. It is also based on the fact that SDTC’s mandate is to seed a critical mass of start-up ideas, while at the same time enabling a critical mass of scale-up ideas that pull through to commercialization.

SDTC is evolving to deliver benefits for Canadians. Our Investment Strategy has led to enhanced reporting and contracting mechanisms to provide stronger incentives to maintain IP in Canada. We are experimenting with emerging business models that leverage IP and data to support company scale-up.

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7 Trade-related elements feature prominently in climate contributions under the Paris Agreement, with about 45 percent of all climate contributions including a direct reference to trade or trade-related measures.
These start-up and scale-up needs originate from a variety of sources, however, they have three things in common:

- An idea for a transformative environmental technology on which one can build a business and/or transform a sector
- A group of corporate leaders on the board of directors and management team with the potential to take the idea to the next level, in terms of technology development or business cycle
- An intellectual property and data strategy that has the potential to result in a globally competitive tangible and intangible assets base

While SDTC technically funds projects, we know it is the companies that will commercialize the technologies. We also understand that start-up and scale-up companies are very different in terms of their potential and ability to engage with us.

**IP and Data Strategy**

In our ambitious IP strategy with ISED, SDTC will explore ways to action IP rights on behalf of the Government of Canada, for example, piloting of an SDTC-led patent collective. SDTC will also support companies as they experiment with data trusts and collectives.

**Partnership Strategy**

SDTC’s 4th Annual Leadership Summit will focus on whole-of-government collaboration to support its investment strategy and IP and data strategy. SDTC will continue to build on our regional partnerships with the second year rollout of our differentiated regional strategy.

**Our Future**

2019/20 is the second year of implementation of the three-year focus for approving projects related to Contribution Agreement 8, that is the $400M SDTC received in Budget 2017.

**SDTC Funds**

As of March 31, 2018, SDTC had approved over $1 billion to 363 projects primarily through the SD Tech Fund. Every project that SDTC funds has the potential to bring significant environmental and economic benefits to Canadians. Over 85 per cent of these projects generate two or more environmental benefits.

**SD Tech Fund**

The SD Tech Fund is designed to fund the development and pre-commercial demonstration of technologies with the potential to deliver significant environmental and economic benefits, in particular for projects greater than $1 million dollars.

Historically, with a few exceptions, SDTC has not awarded contributions of less than $500,000 and more recently less than $1M, as the SDTC process requires a high level of company and management sophistication from our applicants. Internal analysis has shown that there is demand in the ecosystem for smaller grants. Such grants will, for example, enable younger entrepreneurs to engage with us, in particular, those who may be starting companies in their first few years out of post-secondary education. Over the next year, SDTC will take steps to implement processes for grants of less than $1M.

Today our focus is on climate change, clean air, clean water, clean soil. In 2019/20 we are broadening our perspective on environmental outcomes. Sustainable Development is about more than technology.
2019/20 Corporate Goals

Our 2019/20 Corporate Goals build on our 2018/19 successes.

Short- and medium-term activities will be implemented in 2019/20. These activities will be supported by detailed Investments, Performance, and Partnership departmental plans that are developed as part of SDTC’s annual performance and activity planning. Progress is monitored through monthly operational and quarterly results reporting and reviewed by senior management. Regular Board meetings provide oversight and check progress to ensure implementation of SDTC’s goals and objectives.

SDTC’s Annual Leadership Summit in May is a key event in SDTC’s activity planning. It includes participation from SDTC’s Board of Directors, Member Council, senior government leaders, and portfolio companies and is an opportunity to showcase progress on prior year goals and remaining challenges while also informing and refining planned activity for the remainder of the year.

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<tr>
<th>CORPORATE GOALS</th>
<th>PLANNED HIGHLIGHTS; EXPECTED RESULTS</th>
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<tbody>
<tr>
<td>Investment Strategy</td>
<td></td>
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<tr>
<td>✓ Target $135 – 150M in approvals (consistent with demand seen in 2018/19)</td>
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<td>✓ Target $120.7M in disbursements (31 per cent increase over 2018/19)</td>
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<td>✓ Tailoring to applicant readiness, including new strategies for earlier-stage applicants, and the roll-out of a new approach for scale-up applicants</td>
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<tr>
<td>✓ Complete the implementation of risk-based management approach for approvals and disbursements</td>
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<td>✓ Deepening commercialization expertise</td>
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<td>✓ Roll-out company and portfolio reporting to the Board of Directors</td>
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<td>✓ Broaden approach on environmental outcomes assessment and monitoring</td>
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<tr>
<td>CORPORATE GOALS</td>
<td>PLANNED HIGHLIGHTS; EXPECTED RESULTS</td>
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</table>
| **IP and Data Strategy**        | ✓ Explore with ISED ways to action SDTC’s IP rights on behalf of the Government of Canada, for example, the piloting of an SDTC-led patent collective  
                               | ✓ Support companies as they experiment with data trusts and collectives, and monitor approaches  
                               | ✓ Explore with ISED and other Government of Canada leaders in data approaches to develop a cleantech data library as a platform for entrepreneurship  
                               | ✓ Allocate a percentage of project funds for IP and data strategy and execution, develop an approach to monitoring and supporting companies as they make progress  
                               | ✓ Creation of a common data platform, that ensures we are all looking at the same information, mobilizes data to help us make better investment decisions for better outcomes |
| **Partnership Strategy**        | ✓ Leadership summit focused on whole-of-government collaboration to support Investment strategy and IP and Data strategy  
                               | ✓ Second-year rollout out of differentiated regional strategy  
                               | ✓ Specific pilot projects with key government departments in focus areas of Earth, Food, Primary Industry, and Communities  
                               | ✓ Second-year rollout of collaboration with Clean Growth Hub, EDC, BDC, CIPO, and StatsCan  
                               | ✓ Marketing strategy |
| **Talent Strategy**             | ✓ Continue “We are one SDTC” approach, shared targets, no silos, decentralized leadership model  
                               | ✓ Retain and recruit the skills necessary to deliver on SDTC’s goals and strategies  
                               | ✓ Cross-Canada approach to recruiting and engagement |
SDTC understands that start-up and scale-up companies are different in terms of potential and ability to engage us. The chart below shows the typical lifecycle of a company.

Historically, SDTC focused its investments on early development and demonstration with the goal to bridge a company to a first sale/first revenue. We adapted our approach as we learned more about the companies we were working with. They needed more support, for longer periods of time. While revenues may have been increasing, the company’s free cash flow positive was trending more negative as it, for example, re-invested its free cash flow in growth, business development, on-going product development, etc. As such, companies “graduated” at the end of the “Early Development + Demo” phase with insufficient progress shown to bridge to full private sector funding and/or significant sales.

SDTC has shifted its investment strategy to focus both on start-up and scale-up, and allow for one fund to follow a company’s scale-up journey. SDTC, EDC, and BDC collaborated to reduce the gap between our respective agencies, with SDTC “stretching” to cover companies through to the early stages of commercialization, creating an overlap with EDC and BDC instruments. This has led to an improved funding continuum.
The chart below highlights the segmentation of SDTC’s investments in 2017 and 2018.

- The “blue” region of the chart (start TRL 3-6, company pre-revenue) represents historical SDTC investment in start-ups with pre-commercial technologies.
- The “orange” region of the chart (start TRL 7-9, company pre-revenue) represents investment in projects that require further validation to reach the marketplace or, in the case of high capex, further front-end development to reach bankability. At this point, companies are usually transitioning from start-up to scale-up. The goal of an SDTC investment is to give the final assistance needed to reach the marketplace.
- The “green” region of the chart (companies with revenue streams) represent companies that are transitioning to scale-up or already scaling-up. For example, SDTC investment can go towards on-going product development while a first product is being commercialized. While a technology might be at an earlier stage of development, the company itself is at a later stage in its lifecycle. The goal of an SDTC investment is to accelerate a company’s scale-up.

Going forward, SDTC will continue to focus on both start-up and scale-up, and tailor its investment approach in recognition of where a company is at in its lifecycle.
APPENDIX B | RISKS AND MITIGATIONS

This section focuses on operational risks within SDTC’s control and the strategies in place to mitigate these risks to an acceptable level. In addition to operational risks, SDTC understands that external market factors impact the success of the companies we fund.

To help companies develop market-ready technologies, SDTC is diligent in ensuring that our program delivery model is impactful and focused on providing companies with the support they need to commercialize successfully.

The five categories of operational risks are:

1. Performance
2. Financial Management
3. Information Security
4. Reputational
5. Human Resources

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<tr>
<th>RISK: PERFORMANCE</th>
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<tr>
<td><strong>Risk Description</strong></td>
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| **Mitigations:** | • Continue to improve SDTC’s collaborative, continuous intake process and to streamline the approvals process.  
• Continue to partner with like-mandated organizations to make it easier for companies to access funding, e.g. one-window applications, joint contracting, and due diligence sharing.  
• Ongoing outreach and education to potential applicants on the eligibility and evaluation criteria.  
• Improvements in the due diligence process to ensure the readiness of applicants for contracting and project initiation.  
• Risk-based application and project management processes where the nature and extent of activities are tailored to the risks of each project, resulting in more effective and efficient practices and an overall reduction in administrative burden for SDTC and recipients. |

| Risk Description | Board of Directors vacancies and new appointments limit the Board’s ability to provide effective governance and oversight. |
| Mitigations: | • Robust Member Council board nominating and board appointment process in place supported by a professional search consultant and a search committee with the development of a skills matrix and maintenance of a roster of potential Board candidates to support timely re-appointments.  
• Ensure Board members are aware that they may continue to serve until a replacement has been named or a re-appointment made.  
• Ensure a strong board orientation and training program is in place for new Board Directors members. |
## RISK: FINANCIAL MANAGEMENT

**Risk Description**  
Recipient funding is misappropriated

**Mitigations:**  
- Risk assessment and management process in place that identifies key project risks during due diligence along with mitigation strategies that are then re-evaluated at all key decision points throughout the project.  
- Require recipients to provide progress and financial reporting prior to milestone disbursements.  
- Conduct regular site visits to evaluate progress on projects, based on the level of risk.

**Risk Description**  
Operating expenses and/or project disbursements exceed or deviate significantly from the amounts provided under the contribution agreement.

**Mitigations:**  
- Utilize current project trend information when forecasting cash flow.  
- Ensure a close working relationships between Project Managers and recipients to obtain the most accurate and up-to-date projections.  
- Ongoing monitoring and monthly reporting of budget to actual by Finance to the Executive team.  
- Hold Managers accountable, through their annual performance goals, to the efficient management of allocated budgets.

## RISK: INFORMATION TECHNOLOGY

**Risk Description**  
IT systems and practices do not adequately safeguard proprietary or confidential information.

**Mitigations:**  
- Awareness of programs in place for all SDTC employees on the importance of data security practices and the implications of sharing data.  
- Code of conduct and IT policies in place to help protect the confidentiality of information and data breaches.  
- Conduct regular, third-party security assessments, penetration testing, and control assurance to ensure adequate controls are in place.

**Risk Description**  
Stewardship of information and records is inadequate.

**Mitigations:**  
- Establish an appropriate records management program.  
- Provide training on new records management processes and procedures.  
- Consolidation of available data underway with appropriate governance, stewardship, and maintenance.  
- Monitor and continually improve information management and Access to Information (ATI) processes.

## RISK: REPUTATIONAL

**Risk Description**  
Activities undertaken by SDTC, including project approval decisions, are not perceived as fair and transparent by stakeholders.

**Mitigations:**  
- Document and communicate standardized business processes.  
- Formalized and standardized documentation of decision-making for each stage of the application process.  
- Continue efforts towards transparency with stakeholders as decisions are made through SDTC’s client centric approach.
## RISK: HUMAN RESOURCES

### Risk Description
The skills, capacity, and capability of SDTC’s human resources will be insufficient to deliver on its core mandate and new initiatives.

### Mitigations:
- Offer a competitive salary and benefits package to recruit a highly skilled workforce.
- Provide increased flexibility in work location.
- Maintain an open and transparent culture of sharing information with all staff.
- Ensure a skills needs assessment is performed for new initiatives with supporting actions to address gaps.
- Strengthening of risk management and data-enabled culture.
- Ensure individual and organization development plans are in place, including talent management.
APPENDIX C | PERFORMANCE MANAGEMENT STRATEGY

SDTC’s performance monitoring strategies are:

- annual reporting to the Minister of Innovation, Science and Economic Development on metrics mandated by the Government of Canada as well as current funding agreement requirements;
- quarterly cash flow reporting to the Minister of Innovation, Science and Economic Development;
- monthly operational and quarterly results reporting to SDTC’s senior management; and,
- regular reporting to SDTC’s Board of Directors consistent with their fiduciary and governance oversight obligations.

SDTC’s reporting requirements to the Government of Canada through the Minister of Innovation, Science and Economic Development can be summarized in four main categories. These include:

- applications;
- project management and monitoring;
- activities to support the launch of market-ready technologies; and,
- outcomes - environmental and economic benefits realized from the adoption of supported technologies.

Detailed information on these metrics and the methodology used can be found in recent copies of SDTC’s Annual Report and Segmented Database which are available on [www.sdtc.ca](http://www.sdtc.ca).