



SUSTAINABLE DEVELOPMENT
TECHNOLOGY CANADA



NURTURE



BUILD



LAUNCH



GROW

SDTC CORPORATE PLAN

2018/2019

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SDTC 2018/19 Corporate Plan was submitted to the Minister of Innovation, Science and Economic Development January 31, 2018 and is available at sdtc.ca. Hard copies available upon request by contacting info@sdtc.ca.

About SDTC

Sustainable Development Technology Canada (SDTC) is a foundation created by the Government of Canada to support Canadian companies with the potential to become world leaders in their efforts to develop and demonstrate new environmental technologies that address climate change, clean air, clean water and clean soil.

Governance and oversight of the Foundation's activities are provided by an independent, 15-member Board of Directors made up of private and not-for-profit sector leaders from across Canada with a broad range of experience and expertise. This Board oversight includes accountability for the management of the Foundation's financial matters, strategic direction and business affairs. A list of the current Board of Directors and Members of the Foundation can be found at www.sdtec.ca.

Accountability to Parliament

In addition to being accountable to its Board of Directors, SDTC is accountable to Parliament through the Minister of Innovation, Science and Economic Development Canada (ISED).

In its accountability to Parliament, SDTC adheres to many federal Acts and has been asked to participate in a number of federal reviews and evaluations undertaken by federal government departments including the Office of the Auditor General of Canada and the Treasury Board of Canada Secretariat.

Budget 2017 characterized SDTC as a flagship program and included an additional investment of \$400 million over five years to re-capitalize the SD Tech Fund. This \$400 million commitment is the single largest investment made by the Government of Canada since SDTC's inception in 2001. Since 2001, the Government of Canada has committed \$1.364 billion to SDTC.

Mission

SDTC's mission is to be a catalyst and convenor for Canada's cleantech ecosystem by helping Canadian entrepreneurs accelerate the development and deployment of globally competitive clean technology solutions.

To realize this mission, SDTC seeks to:

- 1) Fund the development and demonstration of new sustainable development technologies related to climate change, clean air, clean water and clean soil.
- 2) Foster and encourage innovative collaboration and partnering amongst the private sector, academia, not-for-profit and other like-mandated organizations to develop and demonstrate environmental technologies with respect to climate change, clean air, clean water and clean soil.
- 3) Promote timely diffusion of new sustainable development technologies across key economic sectors in Canada.

Our Future

Budget 2017 highlighted the opportunity to make Canada a true global leader in clean technology and committed significant financial resources to foster the growth of Canadian clean technologies and the companies advancing these ideas.

At SDTC, we support this ambitious goal and are establishing relationships with relevant government and non-government partners to build an ecosystem of support that will enable the companies we invest in to move beyond a successful demonstration and to thrive in domestic and global markets. We are focusing our efforts on strategies that will turn nascent clean technologies into high-growth Canadian firms. We help position companies for growth by forging meaningful partnerships; and by helping companies advance their projects in the critical stages of pre-commercial development and demonstration.

Four Key Elements: Nurture, Build, Launch & Grow

In 2015 SDTC launched its Nurture, Build, Launch and Grow business strategy. This strategy delivers an impactful and client-centric model that enables clean technology entrepreneurs to grow companies and improve cleantech innovation in Canada.



NURTURE

We are creating line-of-sight to ideas and companies with potential, and working with interested and relevant partners (i.e., universities, incubators, etc.) to improve project preparedness for companies seeking SDTC funding.



BUILD

We are working to build our understanding of our companies' needs as they progress from invention through to innovation, providing support where possible and appropriate. This approach allows for a better understanding of the micro and macro realities of this cohort, which will help to improve services and support needed for commercialization.



LAUNCH

We are supporting SDTC-funded companies in the development of their first commercial plant or first material product order. A successful pre-commercial demonstration is not enough for a company to progress to meaningful sales and profits, particularly for capital-intensive projects.



GROW

Once our SDTC portfolio companies become commercially viable, domestically and internationally, we will leverage our expertise to help them along in their journey. This includes gathering information about successes and barriers, and advocating for continued success and growth.

2018/19 Corporate Goals and what we have achieved

SDTC continues to focus its efforts on operational improvements, attracting high quality applicants and supporting current portfolio companies so they can compete and win in a large and growing global market.

Corporate goal one: Focus on efficient operations to provide high quality support to new applicants and current portfolio companies

SDTC is continuously improving existing processes and making it easier for applicants and portfolio companies to do business with us. This effort includes deepening our understanding of the technical, financing and business evolution of portfolio companies and ensuring success and failure are continuously reviewed and integrated into existing processes. Planned activities for 2018/19 include:

- Focus on efficient operations, service quality and outcomes reporting.
- Improve and streamline funding application and contracting processes.
- Initiate an annual “look-back” process that deepens the organization’s understanding of project success and failure, and integrates lessons-learned into processes.
- Pilot new methods of data collection, analytics and reporting.
- Deepen understanding of post-project company needs, seeking ways to actively link companies to the right supports at the right time.
- Develop focused regional strategies based on local capacity and needs.

Corporate goal one: What we have achieved

SDTC’s efficient operational management and focus on service to its portfolio companies was independently recognized in 2017/18 in reviews/audits of government programs:

- Preliminary operational results as of December 31, 2017:
 - o \$76.8 million in allocations, 22 projects approved, average time from first contact to Board approval is 27 weeks. Prior to transitioning from joint calls to continuous intake in 2016, the average time to approve a project was eight months.
 - o \$44.7 million in disbursements, 149 projects under contract or in-contracting, average 41 days to process claims.
- Over the course of the year, SDTC moved to further its results in these and other areas by:
 - o Merging the Investment Committee and Project Review Committee and expanding its mandate to include reviews of the total investment process, from approvals to portfolio outcomes review.
 - o Fully implementing a continuous intake process for project approvals.
 - o Realigning timelines and business processes to be driven by applicant readiness, rather than fixed dates dictated by SDTC.

- In the Fall 2017 report of the Commissioner of the Environment and Sustainable Development to Parliament, the Commissioner noted:
 - “Overall, we found that...[SDTC] had a rigorous and objective process in place to assess, approve, and monitor projects.”
- the Treasury Board Secretariat’s horizontal review of 90+ business innovation and clean technology programs across the Government of Canada:
 - SDTC’s G&A is 11% of funds allocated per year, as compared to 29% on average across all programs.
 - SDTC and Natural Resources Canada were mentioned as being the only two programs that report on environmental outcomes.
 - SDTC was recognized as having best practices for impactful and client-centric program design.

Corporate goal two: “Centre of Knowledge” for strategic distillation of cleantech firm experience in Canada

SDTC works closely with hundreds of clean technology developers for periods often spanning eight to ten years. The foundation also has access to deep private sector expertise in technology development, commercialization and finance in the members of its Board and Project Review Committee. In this way, the organization has a unique view into the start-up and scale-up of a significant percentage of the Canadian cleantech ecosystem. Planned activities for 2018/19 include:

- Expand beyond the understanding of project-level success and failure to firm and portfolio-level success and failure, allowing a more macro-economic view of areas of Canadian clean technology competitive advantage including technology and firm benchmarking.
- Review company exits and insolvencies.
- Review firm and consortia partner IP strategies and develop a communications strategy to transfer lessons learned. Key partners may include Standards Council Canada, Canadian Intellectual Property Office, etc.
- Initiate a Task Force on emerging issues related to data and intellectual property strategies. Plan a third Annual Summit to focus on these issues.

Corporate goal two: What we have achieved

In 2017/18, SDTC deepened its sectoral assessments. The foundation also initiated work on an expanded set of financial metrics. In particular, SDTC:

- Brought together key leaders (over 50 CEOs, policy makers and other key ecosystem members) to discuss key topics including:
 - How to access newly announced clean technology programs and financing,
 - How to develop an intellectual property strategy,
 - How to use infrastructure spending to green growth and access new customers.

- Undertook sectoral assessments in the areas of energy storage, solar energy and software & data.
- Hired PWC to review environmental and financial data collection and metrics development particular to the Launch, or post-project phase.
- Undertook a review of financial data collection and metrics development particular to the Build, or under-contract phase.

Corporate goal three: Team Canada approach to working with federal and provincial partners to support Canadian entrepreneurs

Federal and provincial governments have taken significant steps over the past two years to expand funding programs and other supports for cleantech start-ups and scale-ups. In 2018/19 SDTC will focus on a Team Canada approach where we will:

- Act as a trusted advisor providing SDTC’s unique expertise and historical data to our federal partners, supporting the alignment, simplification and effectiveness of innovation programming across government.
- Continue the partnership with Export Development Canada (EDC) and Business Development Bank of Canada (BDC) in support of the successful delivery of their clean technology focused equity, debt and project finance programs.
- Provide in-kind staff support to the federal government’s Clean Growth Hub.
- Roll-out a new approach for SDTC’s Partnerships group that aligns SDTC support with the unique needs of provincial jurisdictions.
- Continue to roll-out and enhance provincial partnerships in BC, Alberta, Ontario and Quebec to enable seamless federal and provincial support for programs with similar mandates.

Corporate goal three: What we have achieved

In 2017/18, SDTC kicked off a whole-of-government approach to federal and provincial partnerships with a view to provide “one-window” access to applicants, portfolio companies and more. In particular, SDTC:

- Supported federal partners in the delivery of clean technology programs, including: criteria development, application reviews and sharing of due diligence. Program support was delivered to Infrastructure’s Smart Cities Challenge; the Treasury Board Secretariat’s Centre for Greening Government; ISED’s Strategic Innovation Fund, the Clean Growth Hub and the Build in Canada Innovation Program.
- Worked closely with EDC and BDC to formalize a streamlined approach for seamless company hand-offs since new funding was announced in Budget 2017. Currently, these three organizations are collaborating to find financing solutions for 14 companies under joint management.

- Launched a \$40 million partnership with BC Innovative Clean Energy Fund (ICE). Since the kick-off workshop in May 2017, 91 company leads were identified by BC ICE which resulted in 31 new applications submitted to SDTC, with nine projects currently in the detailed application phase.
- Established a partnership with Transition Énergétique Québec (TEQ). A MOU was signed in October 2017, and four companies are being jointly reviewed. TEQ will launch a new portal on February 1, 2018 which will allow applicants to be referred to SDTC for funding consideration.
- Continued implementation of Alberta and Ontario partnerships for a second year.
 - o To date, 14 new projects were created in Alberta for a total value of \$65.9 million. Joint contract management has been put in place which ensures less onerous project management reporting requirements for companies.
 - o To date SDTC has partnered with Ontario on six projects totaling \$51.7 million in total project value.

Corporate goal four: Supporting Canadian entrepreneurs to accelerate and scale technologies in Canadian priority areas

While significant progress has been made both at SDTC and across the federal funding ecosystem, it is still early days of implementation. Achieving the ultimate outcome – a critical mass of clean technology national champions that are globally successful – will require an ongoing effort by all program leaders to identify and breakdown systemic policy and market framework barriers. In 2018/19, SDTC will:

- Mine historical data and knowledge to identify ways to make companies stronger and more competitive, recognizing that the needs of start-ups and scale-ups are different.
- Undertake a review of the needs of public and private customers of clean technology. Develop customized procurement strategies for linking portfolio companies to these customers.
- Go beyond historical data and knowledge and develop a strategy that supports the cross- sectoral application of digital technologies to clean technology in Canadian priority areas: clean resources, agri-food and smart infrastructure for cities.
- Use this information to support ISED, Infrastructure, Global Affairs Canada, and the Standards Council of Canada (SCC) in their efforts related to intellectual property policy, government procurement, export development and strategic regulation.
- Make relevant data available to seed the next generation of Canadian clean technology entrepreneurs.

Corporate goal four: What we have achieved

In 2017/18 SDTC worked to bring more support to entrepreneurs by connecting them with additional resources and expertise. Early results include:

- A May 2017 SDTC Summit that launched the conversation on scale-up, with 50 cleantech CEOs leading the discussion.
- The provision of expertise, support and information to the Clean Technology Economic Strategy Table to assist in the development of ambitious growth targets and strategies to help innovators.
- 14 SDTC companies working with Standards Council of Canada on international standards setting. Two SDTC portfolio company CEOs are participating on international standards agency committees.
- The nomination and selection of two SDTC companies to participate in Global Affairs Canada's Canadian Cleantech Accelerator Program.
- 17 SDTC portfolio companies participated in the Government of Canada delegation attending the 2018 Cleantech Forum in San Francisco.

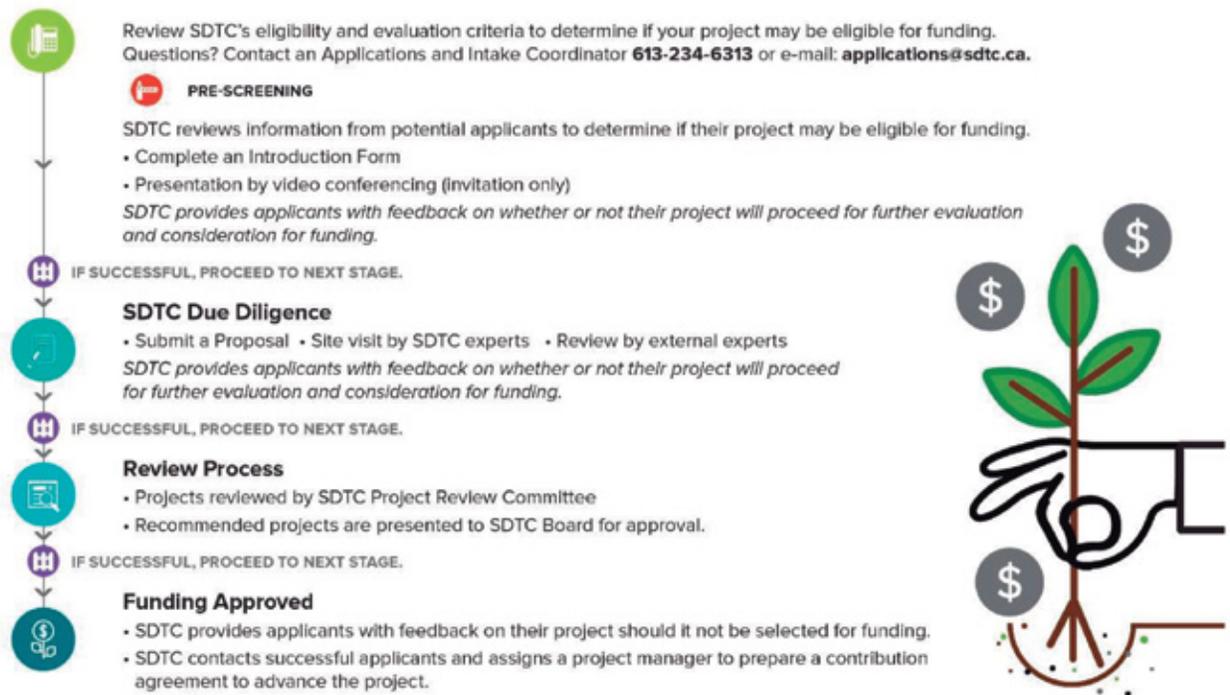
SDTC Funds

As of March 31, 2017, SDTC allocated \$976 million to 345 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% of these projects generate two or more environmental benefits.

SD Tech Fund

The SD Tech Fund invests in the development and pre-commercial demonstration of clean technologies that contribute to clean air, clean water, clean soil and climate change mitigation, while improving the productivity and competitiveness of Canadian industry.

In 2016, SDTC transitioned from conducting two joint calls per year to accepting applications year-round through a continuous intake process. Through continuous intake, applicants move through a multi-step evaluation process that requires more detailed information as applicants move forward in the review. This client-centric model allows for collaboration with applicants as they develop a competitive project proposal. It also shortens the time applicants must wait for a go/no-go funding decision. The stages also allow applicants to defer an application until they are ready to proceed to the next decision point.



SDTC also partners with like-mandated organizations to streamline funding of targeted innovation initiatives and actively works with partners to identify potential projects that may be eligible for funding through the SD Tech Fund.

SDTC only awards funding to projects that meet the following minimum requirements, as set out in its Funding Agreement with the Government of Canada. Projects must:

- Be technically sound and able to develop or demonstrate new sustainable development technologies;
- Bring together the necessary technical, financial and management capacity to successfully undertake the project in a collaborative and innovative matter;
- Ensure significant and broad benefits to Canadians nationally or regionally; and
- Provide for the timely diffusion and deployment of the new sustainable development technology resulting from the project and the related intellectual property.

NextGen Biofuels Fund

As of March 31, 2017 all funds have been disbursed. This fund was established to facilitate the establishment of first-of-kind commercial demonstration-scale facilities for the production of next- generation renewable fuels from non-food feed-stocks. The fund operates as a repayable contribution, to be repaid by recipients from free cash flow once a facility is fully operational. Two projects progressed to final funding decision and are being monitored for potential for repayment in the future.

On November 30, 2017, SDTC submitted its second interim evaluation of this fund to the Minister of Innovation, Science and Economic Development. The findings and lessons learned from this evaluation provide valuable insight into how repayable contributions can support early commercialization.

The next evaluation of the fund will be conducted in 2022.

Fund Allocations

In fiscal year 2018/19 the SD Tech Fund will continue to invest in clean technology projects.

Risks and Mitigation

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 successfully commercialize.

The five categories of operational risks are: Performance, Financial Management, Information Security, Reputational and Human Resources.

Risk: Performance

Risk Description:

Application and contracting processes are viewed as overly onerous and lengthy which could potentially deter high quality applicants from submitting an application for funding.

Mitigations:

- Continue to improve SDTC's collaborative, continuous intake 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 readiness of applicants for contracting and project initiation.
- Improved project management practices to recognize potential project challenges in achieving project objectives.
- Establish leading indicators for efficient contracting and project completion to improve existing processes.

Risk Description:

Upcoming Board vacancies limit the Board's ability to provide effective governance and oversight.

Mitigations:

- Professionalization of the Member Council board nominating and board appointment process through the hiring of a professional search consultant and striking a search committee to develop a skills matrix and undertake the development of a roster of potential Board candidates to support timely re-appointments.
- Ensure Board members are aware that that they may continue to serve until a replacement has been named or a re-appointment made.
- Develop a board orientation and training program.

Risk: Financial Management/Fraud

Risk Description:

Recipient funding is misappropriated.

Mitigations:

- Establish an appropriate risk assessment process that assigns a risk rating to projects during due diligence that will be re-evaluated at all key decision points throughout the project.
- Require recipients to provide financial reporting prior to milestone funding disbursements.
- Conduct regular site visits to evaluate progress on projects.

Risk Description:

Operating expenses exceed the prescribed cap under the funding agreement.

Mitigations:

- Utilize current project trend information when forecasting cash flow.
- Ensure 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 Security

Risk Description:

IT systems do not adequately safeguard proprietary or confidential information.

Mitigations:

- Establish awareness programs for all SDTC employees on the importance of data security practices and the implications of sharing data.
- 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.
- 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.

Risk: Human Resources

Risk Description:

The capacity and capability of SDTC's human resources will be insufficient to deliver on its core mandate.

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 individual and organization development plans are in place, including talent management..

Financial Plans

SD Tech Fund

Financial Assumptions

The following assumptions have been made in establishing the SD Tech Fund operating budget and disbursement plans for fiscal year 2017/18 and 2018/19:

- Funding for the SD Tech Fund is \$1.364 billion, of which \$895 million has been allocated as of March 31, 2017.
- The SD Tech Fund comprises \$965 million provided by the Government of Canada up to the signing of Funding Agreement 7 in June 2017, as well as \$399 million announced in Budget 2017 for Funding Agreement 8, which is not yet signed.
- Contributions received from the Government of Canada are invested in accordance with the terms and conditions of the Act, the current Funding Agreement and the Foundation's Investment Policy.
- As of March 31, 2017 the SD Tech Fund was \$14.822 million. This balance is primarily comprised of project funding that has been allocated but not yet disbursed, as well as some accrued interest. The fund is managed to meet the liquidity obligations of the project disbursements and operating costs.
- No amounts are owing to the Crown.

SDTC - SD Tech Fund Cash Flow Requirements (\$ in 000s)	2016-17	2017-18	2018-19
	Actual	Projected	Projected
Fund Balance (Forecasted) beginning of year	910	14,822	22,433
Project Disbursements	68,722	84,118	91,000
Operating Expenses	9,907	10,462	11,718
Total estimated project disbursements and operating expenses	78,629	94,580	102, 718
Interest Income	196	650	354
Received from Government of Canada	92,345	101,541	-
Estimated Fund balance, end of year	14,822	22,433	(79,931)
Cash Flow Requirement			79,931

NextGen Biofuels Fund

Financial Assumptions

The following assumptions have been made in establishing the NextGen Biofuels Fund operating budget and disbursement plans for fiscal year 2017/18 and 2018/19:

- Funding for NextGen Biofuels is \$225 million. The project disbursement period ended March 31, 2017 and the fund sunsets September 30, 2027.
- Contributions received from the Government of Canada are invested in accordance with the terms and conditions of the Act, the current Funding Agreement and the Foundation's Investment Policy.
- As of March 31, 2017 the NextGen Biofuels Fund was \$10.468 million. This is comprised of project funding that was allocated but was ultimately not required pursuant to the terms and conditions of the project, as well as some accrued interest. The fund is managed in accordance with the Foundation's investment policy.
- No amounts are owing to the Crown.

SDTC - SD Tech Fund Cash Flow Requirements (\$ in 000s)	2016-17	2017-18	2018-19
	Actual	Projected	Projected
Fund Balance (Forecasted) beginning of year	10,624	10,468	9,883
Project Disbursements	31,808		-
Operating Expenses	521	697	525
Total estimated project disbursements and operating expenses	32,330	697	525
Interest Income	117	113	156
Received from Government of Canada	32,056		-
Estimated Fund balance, end of year	10,468	9,883	9,514
Cash Flow Requirement	-	-	-

Consolidated: SD Tech Fund and NextGen Biofuels Fund

Financial Assumptions

The following assumptions have been made in establishing the operating budget and disbursement plans for fiscal year 2017/18 and 2018/19:

- Funding for the SD Tech Fund is \$1.364 billion, of which \$895 million has been allocated as of March 31, 2017. The SD Tech Fund comprises \$965 million provided by the Government of Canada up to the signing of Funding Agreement 7 in June 2017, as well as \$399 million announced in Budget 2017 for Funding Agreement 8, which is not yet signed.
- Funding for NextGen Biofuels is \$225 million. The project disbursement period ended March 31, 2017 and the fund sunsets September 30, 2027.
- Contributions received from the Government of Canada are invested in accordance with the terms and conditions of the Act, the current Funding Agreement and the Foundation's Investment Policy.
- As of March 31, 2017 the SDTC combined fund was \$25.289 million. This balance is comprised primarily of project funding that has been allocated but not yet disbursed, as well as some accrued interest. The fund is managed to meet the liquidity obligations of the project disbursements and operating costs.
- No amounts are owing to the Crown.

SDTC - SD Tech Fund Cash Flow Requirements (\$ in 000s)	2016-17	2017-18	2018-19
	Actual	Projected	Projected
Fund Balance (Forecasted) beginning of year	11,534	25,289	32,317
Project Disbursements	100,530	84,118	91,000
Operating Expenses	10,429	11,159	12,243
Total estimated project disbursements and operating expenses	110,959	95,277	103,243
Interest Income	313	764	510
Received from Government of Canada	124,401	101,541	-
Estimated Fund balance, end of year	25,289	32,317	(70,417)
Cash Flow Requirement (SDTech only)			79,931

Performance Monitoring Strategy

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

SDTC's reporting requirements to 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
- 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 Annual Report Supplement which are available on sdtc.ca.