

CORPORATE PLAN SUMMARY 2017/2018



SUSTAINABLE DEVELOPMENT  
TECHNOLOGY CANADA

 NURTURE  BUILD  LAUNCH  GROW



## Corporate Plan Summary

# 1 ABOUT SDTC

Sustainable Development Technology Canada (SDTC) is a non-profit foundation created, and primarily funded, by the Government of Canada. SDTC is accountable to Parliament for the funds it receives through Innovation, Science, and Economic Development Canada (ISED). SDTC is also independently governed; it is led by a Board of Directors that is comprised of leading Canadian business and sustainability professionals.

Our mission is to act as a catalyst and convenor for the cleantech ecosystem in Canada. We help our entrepreneurs turn great ideas into great opportunities, advancing Canadian cleantech in both national and global arenas.

### SD Tech Fund

SDTC's largest fund is the \$965-million SD Tech Fund that invests in the development and pre-commercial demonstration of clean technology innovations. This fund will allocate \$796 million to projects that address climate-change mitigation and clean-air outcomes; and \$150 million to projects with clean-water or clean-soil benefits. At least \$50 million shall be allocated to clean fossil fuel technologies, \$50 million to the hydrogen economy and \$229 million to specific priority technology areas.

### NextGen Biofuels Fund

SDTC's \$225-million NextGen Biofuels Fund supports the establishment of first-of-kind, large-scale demonstration facilities for the production of next-generation renewable fuels and co-products.

### Fund Allocations

ALLOCATION TOTALS FOR BOTH SD TECH FUND AND NEXTGEN BIOFUELS FUND (BY FISCAL YEAR):	
FY 2014/15:	\$91 million to four NextGen Biofuels Fund projects
	\$71.7 million to 20 SD Tech Fund projects
FY 2015/16:	\$112.6 million to 31 SD Tech Fund projects

From 2001 to September 2016, SDTC has funded 330 projects, representing a cumulative SDTC allocation of \$950 million. Based on the September 2016 fiscal mid-year results, SDTC has met all investment targets, allocating \$117 million to clean fossil fuels, \$59 million to further the hydrogen economy, \$624 million for climate-change mitigation, \$67 million for clean air, and \$167 million for clean water and clean soil.

NextGen Biofuels Fund has received 16 applications for funding and six projects have received financial support. The NextGen Biofuels Fund must disburse all funds by the end of March 2017. For this reason, the fund will not be accepting any additional applications.



## 2 SDTC STRATEGIC DIRECTIONS

Our strategic direction for 2017/2018 is geared toward increasing our national competitiveness in the global cleantech arena by assisting our entrepreneurs with their scale-up efforts.

### Corporate Goal 1: Focus on our Core Business and Position for the Future

SDTC is continuously working to make it easier for applicants to do business with us. Plans include:

- Further streamlining of our funding application processes.
- Reducing the time from first contact to funding decision and first payment, such that the whole process is more in line with market expectations.

As an organization that provides federal funding to Canada's cleantech companies, we will ensure strong stewardship of taxpayer dollars including:

- Continued focus on efficient operations and service quality.
- Ensuring that grant dollars are flowing to technologies and companies with the best potential to deliver desired environmental and economic outcomes.

### Corporate Goal 2: Support Implementation of Pan-Canadian Framework on Clean Growth and Climate Change

SDTC takes a lead role in federal-provincial cooperation in supporting cleantech entrepreneurs. As such, we:

- Have established a number of provincial partnerships and are actively pursuing others, including furthering already-existing cooperative engagements in Alberta and Ontario.
- Are exploring new opportunities in British Columbia, Quebec and Atlantic Canada with plans to launch several key joint initiatives in the near future.
- Have enhanced data sharing and "back office" capabilities for shared IT-platforms, thereby streamlining funding-application processes.

SDTC will also support the development of strategic standards and regulations. We will work with the Canadian Standards Council and provincial partners to support the crafting of effective, outcome-oriented codes, standards and regulations that support and encourage new technology trials and adoption.

Finally, we will enable clean-technology exports by working with Global Affairs Canada, the Canadian Commercial Corporation and provincial partners to support the export strategies of our high-potential companies.

### Corporate Goal 3: Employ a Whole-Of-Government Approach to Support Cleantech Innovation

SDTC is proud to support our federal partners, leveraging our cleantech expertise to help further partners' respective goals and mandates. SDTC is well positioned to:

- Act as consultant and trusted advisor, providing advice to federal partners with cleantech agendas as part of their own mandates and program-delivery objectives.
- Look for opportunities to leverage our cleantech expertise and share resources with key partners, as appropriate.

As part of our whole-of-government approach, we will also support strategic procurement efforts. Through strategic procurement, we will support the cross-government effort to meet 30 per cent greenhouse gas reduction targets across all federal government operations.

### Corporate Goal 4: Focus on Areas of Canadian Advantage for Scale-Up Companies

SDTC is developing targeted strategies for portfolio companies with significant scale-up potential. A key aspect of this is providing the required support for firms engaged in, or contemplating, scale-up activities. We are working hard to bring more valuable and sophisticated support to our entrepreneurs, increasingly focusing on how we can further both the clean technology and the firm. In practical terms, this involves:

- Developing targeted strategies for portfolio companies, recognizing that the needs of start-ups and scale-ups are different.
- Being an advocate and champion for our high-potential companies and providing them support in navigating the Accelerated Growth Service and other key ISED scale-up initiatives.

The second part of this goal involves the careful distillation of SDTC's role in capitalization strategy. We will:

- Expand upon the work of the SDTC Board task force on early-commercialization financing by developing case studies and working with key partners to understand existing gaps.
- Continue to collaborate with Export Development Canada (EDC) and Business Development Bank of Canada (BDC) in our efforts.



## Corporate Plan Summary

### 3 MEASURING AND REPORTING ON PAST PERFORMANCE

In 2016, the Commissioner of Environment and Sustainable Development undertook a review of the Government of Canada's clean energy programs, including SDTC's SD Tech Fund. This cross-organizational audit was an opportunity to look at its policies, procedures and outcomes going back ten years. The report will be released in the spring of 2017.

SDTC's own performance is measured in terms of the environmental, economic and social impacts derived from the Foundation's investment in Canadian cleantech.

#### ECONOMIC, ENVIRONMENTAL AND SOCIAL BENEFITS

##### Economic Benefits

In fiscal year 2016/17 seven new SDTC-funded technologies were commercialized bringing the total to 70 SDTC cleantech market entrants to date. SDTC supported companies are global players with 80 per cent of their revenues derived from export sales in 2016.

REVENUES FROM TECHNOLOGIES IN THE MARKET (BY FISCAL YEAR):	
<b>FY 2014/15:</b>	Revenues of \$1.08 billion
<b>FY 2015/16:</b>	Revenues of \$1.42 billion
<b>FY 2016/17:</b>	Revenues of \$1.78 billion

##### Environmental Benefits

REDUCTION IN GREENHOUSE GAS EMISSIONS (BY FISCAL YEAR):	
<b>FY 2014/15:</b>	GHG emissions reduction of 4.57 Mt CO <sub>2</sub> e/year
<b>FY 2015/16:</b>	GHG emissions reduction of 6.51 Mt CO <sub>2</sub> e/year
<b>FY 2016/17:</b>	GHG emissions reduction of 8.39 Mt CO <sub>2</sub> e/year

OTHER ENVIRONMENTAL BENEFITS (BY FISCAL YEAR):	
<b>FY 2014/15:</b>	Monetized benefit of clean air \$10 million
	Monetized benefit of clean water 24.4 million
	Monetized benefit of clean soil \$54.2 million
<b>FY 2015/16:</b>	Monetized benefit of clean air \$13.2 million
	Monetized benefit of clean water \$29.6 million
	Monetized benefit of clean soil \$72.3 million
<b>FY 2016/17:</b>	Monetized benefit of clean air \$13.9 million
	Monetized benefit of clean water \$30.9 million
	Monetized benefit of clean soil \$72.7 million

87 per cent of projects have a secondary co-benefit; and still others have two or three co-benefits.

##### Social Benefits

JOB CREATION (BY FISCAL YEAR):	
<b>FY 2014/15:</b>	8,213 jobs created (4,614 direct jobs created, 3,599 indirect jobs created)
<b>FY 2015/16:</b>	9,308 jobs created (5,229 direct jobs created, 4,079 indirect jobs created)
<b>FY 2016/17:</b>	9,464 jobs created (5,317 direct jobs created, 4,147 indirect jobs created)



## 4 CORPORATE PHILOSOPHY: FOUR KEY ELEMENTS



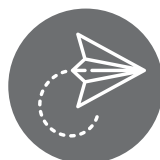
### NURTURE

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 journeys. This includes gathering information about successes and barriers, and advocating for continued success and growth.

### NURTURE

#### 1) Attracting Quality Applications

Early-stage involvement with potential applicants allows SDTC to help entrepreneurs understand and adeptly navigate through the SDTC application process. As a result, we are already seeing more properly structured and detailed applications, which improves their viability and likelihood of funding.

NUMBER OF APPLICATIONS RECEIVED FOR SD TECH FUND (BY FISCAL YEAR):	
FY 2014/15:	187
FY 2015/16:	259
FY 2016/17:	273 (including 124 from SDTC intake, 109 from joint-call with ERA Alberta, and 38 from joint-call with Alberta Innovates)

NUMBER OF PROJECTS INVESTED IN AND TOTAL DOLLAR ALLOCATIONS (BY FISCAL YEAR):	
FY 2014/15:	\$91 million to three NextGen Biofuels Fund projects
	\$71.7 million to 20 SD Tech Fund projects
FY 2015/16:	\$112.6 million to 31 SD Tech Fund projects

#### 2) Efficiencies and improvements to the process

In July of 2016, SDTC moved to a continuous intake process, simplifying the application and project-proposal process, reducing contracting times, and supporting entrepreneurs in addressing financing, partnering and policy barriers. The continuous intake process has decreased average project-approval times by 30 per cent, as well as significantly reducing the efforts undertaken by applicants who are not a good fit for SDTC.

#### 3) Provincial Partnerships

In 2016, SDTC partnered with like-minded provincial partners to streamline funding of targeted environmental initiatives. At project conclusion, the pilots with the two Alberta agencies approved \$31.4 million of shared investment.

We piloted "one-window" application, due-diligence and contracting processes to create the first shared, federal-provincial "back office" comprised of a shared-IT platform and processes. This approach will be expanded and offered to all provinces; it will be tailored to their respective needs and priorities.

*continued >>*



## 4 CORPORATE PHILOSOPHY: FOUR KEY ELEMENTS continued

### BUILD

SDTC operates primarily during the early stages of the innovation process. With an overarching goal to advance Canadian cleantech, we assume higher levels of risk than typical venture investors in an effort to stimulate additional investment.

#### 1) Supporting Portfolio Companies

SDTC works with its entrepreneurs to ensure that the demonstrated technologies will be relevant to future customers and investors.

FUND DISBURSEMENTS				
Fund	FISCAL 2016/17 ACTUAL (Q1 – Q3)		FISCAL 2016/17 YEAR-END PROJECTED	
	# Projects	Disbursed	# Projects	Disbursed
NextGen Biofuels Fund	3	\$16 million	3	\$31 million
SD Tech Fund	75	\$52 million	101	\$83 million
Total SDTC	78	\$68 million	104	\$114 million

In our past fiscal year, we delivered on all fund objectives while maintaining an operating budget in line with Board and Funding Agreement guidelines; we achieved success across all funding priorities.

#### 2) Building Project Consortia Partnerships

During the build phase, SDTC links companies with additional consortia partners such as supply chain partners, potential customers, technology users, industry and/or research partners, and/or other funding sources.

LEVERAGED FUNDING (BY FISCAL YEAR):	
FY 2016/17:	\$147 million leverage to NextGen Biofuels Fund projects by end of second quarter
	\$2.4 billion leverage to SD Tech Fund projects by end of second quarter

Across the total SDTC project portfolio, leveraged funding accounts for two thirds of eligible projects costs, meaning SDTC leverages \$2 for every \$1 of funding.

#### 3) Process Review

As a result of learnings from provincial partnership initiatives and joint-calls with Alberta-based organizations, we are working to simplify our contracts (early-stage work completed) and to improve our contract-management processes.



## 4 CORPORATE PHILOSOPHY: FOUR KEY ELEMENTS *continued*

### LAUNCH

Many of our SDTC portfolio projects are now maturing into competitive businesses. More than seventy companies are ready for market entry, either at the point of commercialization or fully in the market; another 115 projects are still in the project stage, steadily progressing toward commercialization.

#### 1) Support for the Next Phase

During the project phase, SDTC helps applicants strengthen their value propositions by identifying additional consortium partners—particularly technology end users. SDTC portfolio projects include support from 1,300 consortium partners.

#### 2) Finding Financing and Markets

SDTC works with portfolio companies to facilitate additional private investment beyond the project stage. SDTC helps its companies export to more markets and attract a larger share of foreign direct investment.

As of September 2016, 52 of SDTC's 330 companies—into which SDTC has invested \$950 million—have raised more than \$2.1 billion in follow-on financing from the private sector. Of that funding, 55 per cent came from outside of Canada, and of that 55 per cent, 75 per cent was from the United States.

#### 3) Focusing on Scale-Up

SDTC is focusing on scale-up initiatives and underlining its innovation mandate. Through our NextGen Biofuels Fund, we are helping companies build the demonstration facilities they require to scale-up their technologies. To date, we've supported three firms (with four projects) through their scale-up efforts with NextGen Biofuels Fund funding.

### GROW

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

#### 1) Creation of Working Groups

In 2016, we established an SDTC Early Commercial Finance Working Group to understand why the majority of companies that “graduated” from SDTC's funding programs are still making less than \$5 million in annual revenues and struggling to survive.

#### 2) Consulting with Companies

We've been engaging our stakeholders to better understand their challenges, barriers and successes. Where possible, we've also explored pilot opportunities and potential solutions to validate our conclusions.



## 5 STRATEGIC INITIATIVES: SDTC AS CATALYST AND CONVENOR

### Canadian Cleantech Advantage Leadership Summit

In April 2016, SDTC hosted a Canadian Cleantech Advantage Leadership Summit, with the patronage of, and in the presence of, the Honourable Elizabeth Dowdeswell, Lieutenant Governor of Ontario, and the Honourable Navdeep Singh Bains, Canada's Minister of Innovation, Science and Economic Development.

### Effective Partnerships

In the past year there has been a positive transition from NRCan to ISED and continued support for Mission Innovation. SDTC continues to advance a collaborative relationship with ISED, supporting the federal government in the areas of sustainability and innovation.

### Our Partnerships:

- Since 2012, Export Development Canada (EDC) and SDTC have formally collaborated to bridge the gap between proven technology and commercial bankability.
- SDTC is working with strategically aligned provincial organizations to increase the opportunities for cleantech entrepreneurs.
- In Atlantic Canada, collaboration includes a SmartGrid call with Innovacorp and the NS Department of Energy.
- Western Economic Diversification collaboration has resulted in \$12.9 million in follow-on funding for SDTC portfolio companies.
- SDTC, EDC, and Business Development Bank of Canada (BDC) have established a tri-organizational working group to bridge the gap between proven technology and commercial bankability and to accelerate the entry of SDTC portfolio companies into some of the most strategic global cleantech markets.
- SDTC collaborated with the Canadian Innovators Council and enabled 13 cleantech CEOs who are actively scaling-up their respective companies to participate in industry events targeted at this demographic.

### Thought Leadership

In 2016, SDTC's strategic initiatives to share its thought leadership with interested Canadians led to several positive outcomes.

### Our Thought Leadership in Action:

- SDTC's unique perspective was a key element of the NRCan-McKinsey study on Canadian cleantech priorities, as well as subsequent NRCan-led national workshops.
- SDTC was part of the Ecotech Financing Task Force that published a study on the Evolution of the Quebec Cleantech Funding Chain (2006-2014).
- Together, SDTC and Cycle Capital produced a study on Canada's intellectual property and venture capital financing gaps.
- Leah Lawrence, SDTC president and CEO, acted as a witness for the Canadian Senate Committee on Energy, the Environment and Natural Resources, providing expert testimony on how, as a nation, we can transition to a low carbon economy and the associated impacts of this on Canada's energy sector.





## 6 FINANCIAL PLANS

### 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 2016/17 and 2017/18:

- Funding available for the SD Tech Fund is \$965,000, which includes both Funding Agreement #6 of \$915,000 signed in December 2016 and Funding Agreement #7 of \$50,000 awarded in the 2016 Budget with signature pending.
- Funding available is \$225,000 with the disbursement period ending 31 March 31, 2017 and the fund's life ending September 30, 2027.
- Fiscal year 2017/18 will be a fully operational year assuming that the SD Tech Fund will be recapped in the 2017 Budget and NextGen Biofuels Fund operates in accordance with the NextGen Biofuels Funding Agreement.
- 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.
- No amounts are owing to the Crown.



## 7 RISKS AND MITIGATION

In accordance with our responsibility to the Funding Acts, we have identified our risks as they apply to our two main funds, the SD Tech Fund and the NextGen Biofuels Fund.

### SD TECH FUND

#### 1) Economic/Market Uncertainty Risk

**The issue:** Cleantech entrepreneurs encounter many challenges in obtaining pre-commercialization financing. Economic uncertainty has the potential to pose considerable challenges to SDTC-funded technologies, making it difficult to attract the important private-sector funding required for commercialization.

**Mitigation:** SDTC is cultivating lasting relationships with the investment community, particularly through its targeted initiatives to attract project capital and its strategic focus on large, multi-national technology adopters.

#### 2) Alignment with Regulation and Policy Risk

**The issue:** Uncertainty in terms of cleantech policy drivers can impact the market players who make the investment decisions necessary for the diffusion of technology.

**Mitigation:** SDTC works with project proponents to identify and address regulatory and policy directives that could impact the market success of their technologies.

#### 3) Stewardship Risk

**The issue:** Ensuring alignment with Canada's cleantech objectives while maintaining the momentum created by the SD Tech Fund requires effective governance and active contribution to the design and measurement of the cleantech innovation agenda. SDTC's success includes meaningful and timely involvement in the structuring of whole-government initiatives around these issues.

**Mitigation:** SDTC is building on existing and proven governance structures while introducing new elements to improve effectiveness. Aligning these objectives with federal government innovation and sustainability mandates relies on SDTC's continued role as a source of cleantech expertise in Canada.

### NEXTGEN BIOFUELS FUND

#### 1) Construction Timelines Risk

**The issue:** Due to delays associated with technology readiness and limited access to financing, the funded projects will proceed past the NGBF deadline. While no further funding will be issued after this deadline, requirements for ongoing monitoring and reporting have been implemented through to the end of the maximum repayment period of March 31, 2027.

**Mitigation:** Comprehensive reviews of proposed schedules for plant construction were conducted by NextGen Biofuels Fund experts during project due diligence to assure timelines are realistic with acceptable risk of not meeting project and disbursement deadlines.

#### 2) International Demand Risk

**The issue:** As the biofuels industry develops, international perception and the associated demand for biofuels are changing. While some expected biofuel opportunities have not materialized, others are just emerging.

**Mitigation:** The NextGen Biofuels Fund team will continue to work closely with investors and applicants, assisting them with financing activities. The NextGen Biofuels Fund will continue to conduct outreach activities to target a range of stakeholders, including technology developers and investors, to identify high-potential project opportunities.