

PREFACE



Sustainable Development Technology Canada (SDTC) was established by the Government of Canada to act as the primary catalyst in building a sustainable development technology infrastructure in Canada. From an initial investment of just under \$7 million in 2002, SDTC's annual allotment to technology developers increased to \$97.5 million a year in 2009. Today, the Foundation has a strong, diversified portfolio of approximately 200 cleantech projects across Canada with a total project value of \$1.7 billion. These projects provide technology solutions for every major economic sector in Canada.

SDTC is accountable to Parliament through the Minister of Natural Resources Canada. Environment Canada and Industry Canada are the other key departments involved in the work of the Foundation. As a result, the Foundation delivers on the policy objectives of these ministries. Some of these objectives will be discussed in the sections that follow. More detailed discussion will be provided in the full SDTC 2011 Corporate Plan.

"Having an organization like SDTC focus on helping commercialize Canadian clean technology solutions is critical to Canada's global competitiveness and leadership in clean technology."

John Saabas

President, Pratt & Whitney Canada



1 Making Canada a clean energy superpower

The federal government envisions Canada as a clean energy superpower. SDTC is an important part of that objective. Almost 80 percent of SDTC-funded projects support the development of transformative technologies that will contribute to a cleaner, more diversified energy supply in Canada. This includes technologies for the cleaner production of traditional energy, such as fossil fuels from the oil sands, as well as emerging clean energy sources like biofuels, renewables, and waste-to-energy. Further, the NextGen Biofuels Fund is entirely dedicated to the demonstration of large-scale, first-of-kind next-generation biofuels facilities, laying the groundwork for the next generation of renewable fuel production in Canada.

As of June 30, 2010, SDTC's investments in these technologies equal the total private sector venture capital investment in clean energy in Canada. In order to secure its share of the global cleantech opportunity, thereby creating jobs and prosperity for Canadians, it is crucial that Canada continue to support the commercialization of clean technology through a recapitalization of the SD Tech Fund™.



2 Making effective, efficient use of public funds



As a publicly funded agency, SDTC is accountable to the Government and people of Canada. SDTC undergoes extensive auditing and evaluation to ensure that the Government of Canada is getting optimal value for its SDTC investment. Under the terms of the Funding Agreement, each year SDTC must provide the Government of Canada with a corporate plan summarizing actions taken that year by the Foundation to advance the development, demonstration and diffusion of Canadian sustainable development innovations. The plan must also outline such actions planned for the next year. The *SDTC 2011 Corporate Report*, of which this document is a preface, is intended to fulfill this obligation.

SDTC optimizes the value of its publicly derived funding by leveraging private sector investment to more than triple the funds available to eligible projects. To date, SDTC has leveraged \$478 million of public funds into a project portfolio of over \$1.7 billion in which third-party project partners have invested close to \$1.2 billion. For every dollar that the Government of Canada has invested through SDTC, other partners have invested \$2.43. SDTC technologies that are ready to go to market have received substantial follow-on funding from the private sector as a result of SDTC activities. This represents double leverage of public funds, as 43 projects, into which SDTC has invested \$130 million, have raised \$1.3 billion in follow-on funding over the past four years from all asset classes, not just venture capital, thereby multiplying SDTC's contribution by ten times. This degree of leverage is internationally recognized as best in class for organizations like SDTC.

3 Generating real economic and environmental benefits from public funding

Investment in and through SDTC creates numerous benefits for Canada and Canadians. In terms of environmental impact, SDTC invests in many projects that have more than one environmental benefit. Eighty-eight percent of SDTC projects have two or more environmental benefits. For instance, 90 percent of all SDTC projects have a climate change benefit, and 78 percent of the projects have a clean air benefit.

Investment in sustainable development technologies also creates economic benefits, such as job creation and technology exports. A study conducted by the United Nations Sustainable Energy Finance (SEF) initiative shows that green programs can generate up to three to four times as many jobs per dollar than tax cuts.¹ SDTC's portfolio of cleantech projects provides solutions to all major sectors of the Canadian economy, bringing benefits across the economy.



4 Ensuring the competitiveness of Canada's natural resource sector

Investment in a sustainable development technology infrastructure will ensure that Canada's natural resource sectors—including forestry, mining, and oil and gas—will remain vibrant, innovative and competitive. SDTC is currently supporting clean technology solutions that will open up new opportunities for traditional resource sectors. For instance, the oil sands will benefit from lower energy and water consumption in the extraction and refinement of bitumen. Next-generation biofuels and biomass energy will create new markets for the forestry and agriculture industries. In facilitating more environmentally sustainable processes, clean technology investment also enhances the global competitiveness of such industries, increasing access to, and competitiveness in, vital global markets, which in themselves are demanding greener products.

5 Moving Canadian innovation to market with real results

SDTC provides the bridge from the laboratory to the market. Occupying a position in the innovation chain between the research and the commercialization phases, the Foundation helps innovators to carry out critical “real-world” demonstrations of their clean technologies in order to attract follow-on financing and achieve market entry.

Due to its recognized role in the cleantech investment space and its ability to select early-stage companies with pre-revenue technologies, SDTC has become the “funder of first resort.” As such, the Foundation kick-starts clean technology companies as they move out of the research phase to build their value proposition and, in the process, provides the private sector with quality deal flow. SDTC's position in the innovation chain is unique among federal government programs (although overlaps do occur), and its specific area of focus and the real results it has produced are significant.

SDTC builds on crucial early innovation investment made by Government of Canada departments and agencies, such as Industry Canada's Industrial Research Assistance Program (IRAP), NRC's Program of Energy Research and Development (PERD), the National Sciences and Engineering Research Council (NSERC), and the National Research Council (NRC). As the federal government increases its funding for scientific research and innovation, SDTC's role of building the bridge between innovation and commercialization becomes more critical. To the end of August 2010, of venture capital investment in the energy and environment sector in Canada, 49 percent of invested dollars went to SDTC-funded companies.

6 Benefiting all the regions of Canada

SDTC funds projects across the country, in each of the provinces and spanning most major sectors of the economy. Its funding allocations parallel the respective share of GDP of each province, building on provincial strengths, and opportunities and contributing to cleantech innovation and investment across Canada.

In the second quarter of 2010, SDTC opened its third satellite office in Montreal, joining Toronto and Vancouver. This gives the Foundation cross-country representation, improving awareness and understanding of the Foundation's mission through increased local outreach with numerous key regional stakeholders.

¹ Why Clean Energy Public Investment Makes Economic Sense: the Evidence Base (2009) by the SEF Alliance, <http://www.sdtec.ca/uploads/documents/en/UNEP%20SEF%20Alliance%20Report.pdf>: p 12.



7 Building strong relationships with all levels of government and industry

Sustainability affects all regions and requires the involvement of all levels of government. As such, SDTC works with all levels of government to bring clean technologies to market. In recent years, SDTC has provided the model for and consulted with several provinces, advising them on provincial cleantech investment funds.

In an effort to secure co-funding into SDTC-funded projects, the Foundation has entered into memoranda of understanding (MOUs) with several provincial governments and select Canadian corporations. These partnerships have allowed SDTC to establish a dialogue on cleantech trends and opportunities, and to share some of its best practices on funding and supporting commercialization of clean technologies. At the local level, several SDTC projects have entered into agreements with municipal governments and private sector investors to collaborate on demonstration-stage projects.

8 Aligning with the policies of our major trading partner

The United States is Canada's largest trading partner. As of 2009, the US accounted for 73 percent of Canadian exports and 63 percent of Canadian imports.² For key sectors of the Canadian economy—such as forestry, manufacturing and oil and gas—regulation and legislation adopted by federal and state governments in the US have a significant impact. As such, the federal government has committed to developing policies that align with those of the US federal government, particularly for key cross-sectoral initiatives, such as clean energy development.

Recognizing the importance of the United States to the success of Canadian-developed sustainable development technologies, SDTC closely monitors US policies to ensure that SDTC-funded companies are in the best position to understand and capitalize on opportunities presented by US policy. This includes opportunities to attract financing as well as accessing emerging market opportunities. In 2009, foreign direct investment in Canada was 30 percent for all sectors. In the case of SDTC companies, this figure was 45 percent, of which 50 percent was investment from California-based groups (particularly in Silicon Valley). As a result, it is likely that the clean energy dialogue between the US and Canada, in which SDTC has played a contributory role, will present opportunities for SDTC-funded companies.

US policy on biofuels is evolving in a similar manner to that in Canada. At the same time, US investment interest in Canadian-based biofuel projects is increasing. Continued alignment with US policy will help to ensure that Canada will be in a competitive position as the technologies mature.



10 Addressing climate change

The federal government has committed to reducing Canada's GHG emissions by 17 percent below 2006 levels by 2020.³ SDTC is currently helping to commercialize the technologies that will help Canada to achieve that important objective. Fully 90 percent of all SDTC projects have a climate change benefit. The estimated annual discounted GHG emissions reduction attributable to the 183 projects (as of December 2009) that have been allocated funding by SDTC is projected to be between 7 and 17 megatonnes in 2015.⁴ These reductions benefit all Canadians, as they increase the efficiency and competitiveness of Canadian industry.



9 Supporting diverse market sectors and government initiatives

Because SDTC funds technologies that will be implemented in all major economic sectors across the country, the Foundation inherently supports numerous other government programs. For instance, NextGen Biofuels Fund supports programs to develop rural economies and create new revenue streams for the agriculture and forestry sectors. Several of SDTC's projects are focused on waste-to-energy and wastewater treatment technologies that will help municipal and regional governments meet their waste management objectives. Biomass, energy storage solutions and renewable energy technologies are applicable to remote locations and Northern communities. SDTC funding in clean water technologies supports provincial initiatives aimed at ensuring clean drinking water. Further, SDTC-supported projects provide technologies for emerging fields such as advanced materials and nanotechnology.

SDTC works closely with policy makers on the development of sustainable development technologies, consulting with numerous ministries and participating regularly in cross-government working groups and meetings. As a result of this interaction, many departments are increasing their focus on the innovation chain and paying greater attention to commercialization, emulating SDTC's model. SDTC provides expertise to key national working groups on sustainable development, such as NRTEE and the Energy Sector Sustainability Table (ESST). Over the past twelve months, SDTC has appeared before the Senate Standing Committee on Energy, the Environment and Natural Resources, and the House of Commons Standing Committee on Finance.

2 <http://www40.statcan.gc.ca/101/cst01/gblec02a-eng.htm>

3 <http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=EAF552A3-D287-4AC0-ACB8-A6FEA697ACD6>

4 This estimate is updated on an annual basis. SDTC adjusts for the uncertainty of projections by applying a discounting factor to individual projects of between 80% and 93.5%.

1. ABOUT THE FUND

Sustainable Development Technology Canada (hereafter referred to as SDTC and/or the Foundation) was established by the Government of Canada to “act as the primary catalyst in building a sustainable development technology infrastructure in Canada.” The technology development and demonstration stages are often characterized by a financing gap. At this stage, it may become difficult to secure funding due to financial and market risks related to the unproven nature of the technology.

SDTC helps bridge this gap by administering two funds totaling \$1.05 billion.

The \$550 million SD Tech Fund™ is aimed at supporting the development and pre-commercial demonstration of clean technology solutions. The Fund, established in 2001, is to direct a total of \$350 million to support climate change and clean air projects (since increased to \$400 million).⁵

In 2005, the Fund received an additional \$200 million to support technologies that address clean water and clean soil technologies (this amount was subsequently reduced to \$150 million in 2010). The second fund is the \$500 million NextGen Biofuels Fund™ (NGBF), which is aimed at supporting the establishment of first-of-kind large demonstration-scale facilities for the production of next-generation renewable fuels and co-products in Canada.⁶

The Foundation’s mandate, governance, operations, performance requirements, and accountability are defined in Funding Agreements that have been executed by the Foundation and the ministers of both Natural Resources Canada and Environment Canada. As such, the Foundation directs its efforts to support the broader policy objectives of those ministries.

These objectives include:

- Clean energy development;
- Ensuring effectiveness and efficiency of publicly funded programs;
- Generating real economic and environmental benefits from publicly funded programs;
- Ensuring the competitiveness of natural resource sector;

- Reducing negative environmental impacts;
- Generating benefits in all regions of Canada;
- Collaboration with numerous levels of government and industry;
- Aligning with US policy, particularly in clean energy development;
- Supporting diverse market sectors and government initiatives; and,
- Moving Canadian innovation to market.

Under the terms of the funding agreements, the Foundation is required to “provide a corporate plan as well as a summary of the corporate plan annually to the Minister.” The *SDTC 2011 Corporate Plan*, of which this report is a summary, is intended to fulfill this obligation.

2. PERFORMANCE EXPECTATIONS

The Foundation ensures accountability through a performance and evaluation framework known as an evaluation logic model, which is illustrated on pages 20 through 23 of this report. This model is designed to measure the Foundation’s progress toward its primary goals—which consist of the overarching mission and the three supporting goals listed below—by identifying operational activities and assessing their results. The three supporting goals are as follows:

- a) Develop and demonstrate new sustainable development technologies related to climate change, clean air, clean water, and clean land, in order to make progress toward sustainable development;
- b) Foster and encourage innovative collaboration and partnering amongst diverse persons in the private sector and in academic and not-for-profit organizations to channel and strengthen the Canadian capacity to develop and demonstrate sustainable development technologies with respect to climate change, clean air, clean water and clean land; and,
- c) Ensure timely diffusion of new sustainable development technologies in relevant market sectors throughout Canada.

⁵ It should be noted that In June 2010, SDTC received Treasury Board approval to increase allocations to clean climate/clean air technologies from the original amount of \$350 to \$400 million and to reduce clean water/clean soil technology allocations from \$200 million to \$150 million. This re-allocation was made at the request of SDTC in response to significant market demand for the SDTC Funds to address climate change and clean air technologies.

⁶ NGBF defines renewable fuels as any alternative to gasoline, diesel or heating oil that is derived from biomass. Next-generation renewable fuels means any Renewable Fuels derived from production pathways that are not widely commercially used. For greater clarity this refers to the use of (i) non-traditional renewable feedstocks such as lignocellulosic materials (including fast-growing grasses, agricultural residues and forest biomass); and (ii) non-conventional conversion technologies.

3. COMPLIANCE, AUDIT AND EVALUATION

As part of its transparency and accountability, the Foundation is required to undergo a number of evaluation and auditing activities, which are specified in the funding agreements. While some have specific timing, others have been added at the discretion of NRCan. For the SD Tech Fund, such activities to date have included:

- 2005 - compliance audit (NRCan)
- 2006 - performance audit by the Commissioner of the Environment and Sustainable Development (CESD), a division of the Office of the Auditor General (OAG)
- 2006 - first interim evaluation (mandated by funding agreement)
- 2009 - second interim evaluation (mandated by funding agreement)
- 2009 - cost-benefit analysis (part of interim evaluation)
- 2010 - NRCan-initiated value-for-money audit, scheduled for completion in October 2010

The Funding Agreement under which the NGBF was established has provisions for compliance audits, performance audits, and interim evaluations (which are due in 2012, 2017, and 2022). To date, the Fund has contributed material to the CESD's audit on the Kyoto Protocol Implementation Act in 2009, and will continue to do so in 2010.

Each year, in accordance with its requirements, the Foundation submits to Parliament an annual report, an annual report supplement and a corporate plan, of which this report is the 2011 version.

4. ACTIONS AND RESULTS – SD TECH FUND

Under the SD Tech Fund evaluation logic model actions undertaken by the Fund can be broken down into nine work scopes, or areas of activity, each of which supports one or more of the primary goals of the Foundation. The following sections will assess the actions undertaken by the Foundation between July 1, 2009 and June 30, 2010 (the reporting period) in each of these areas of activity.

4.1. Protecting SDTC's investment

To achieve its mandate and make prudent use of public money, SDTC must ensure that it invests in the right technologies with the right management under the right terms and conditions. This is generally done through several processes or mechanisms, which are:

1. Process and schedule;
2. Project selection criteria; and,
3. Integrating funding with the financial sector.

Each of these will be discussed in the three sections that follow.

4.1.1. Process and Schedule

Between July 1, 2009 and June 30, 2010, SDTC completed two funding rounds. During this period, 34 projects were approved for funding allocation for a total of \$100 million. From 2002 to the end of 2010, SDTC will have placed 18 rounds of funding calls, 17 of which will have been processed to the Board-approval stage by the end of 2010.

In order to ensure that the process is as efficient as possible, SDTC continually works with applicants to help them understand the application process. As a result of these efforts, SDTC has noted an improvement in success rates of the phase I SOIs from three percent in 2002 to 19 percent in 2010. A similar improvement has been noted in the phase II proposals over the same period from 30 percent to 47 percent.

In 2009-2010, the Foundation conducted a comprehensive review of the portfolio projects to identify any projects that were unable to go forward as initially indicated by the project developer. SDTC identified 12 projects that were deemed unable to proceed to contracting, primarily due to inability to close remaining funding or changes in consortium composition. As a result, the Foundation identified \$34 million in funding for re-allocation to future projects.

SD Tech Fund will continue to conduct two SOI calls per year. SDTC has made funds available to conduct two funding allocations in the next twelve months—November 2010 and June 2011—and anticipates receiving capitalization to conduct an allocation in November 2011 and thereafter.

4.1.2. Project Selection Criteria

Project selection is a competitive process based on three general selection criteria: technology performance, market/business potential and environmental benefit. SDTC's internal evaluations are supplemented by sectoral experts who are trained in the Foundation's processes to apply high quality standards and deliver objective evaluations. In 2010, SDTC strengthened these resources by delivering a number of expert development webinars for its new and existing reviewers, educating them on the SD Tech Fund application process, selection criteria and best practices. The Foundation is continually conducting outreach to engage with sectoral experts.

The Foundation will continue to screen projects in accordance with established project screening criteria, using sectoral experts trained in the Foundation's processes to augment SDTC's in-house expertise. It will continue to stay current with the needs of industry and ensure that its roster of experts is knowledgeable and able to evaluate the increasing breadth of technologies brought forward to SDTC. In addition, the Foundation will continue to make efforts to attract the most qualified expert reviewers in appropriate technology sectors.

4.1.3. Integrating Funding with the Financial Sector

In order to maximize the number of projects receiving SDTC funding and to encourage faster adoption of sustainable development technologies in the marketplace, the Foundation caps the percentage of funding that it will provide to any one project. The overall aim is to leverage the SDTC Tech Fund investment so that, on average, no more than 33 percent of the total portfolio of eligible project funding is provided by the Foundation. Parties such as the recipient firm, industry, consortia partners, entrepreneurs, and government programs make up the balance of project funding.

SDTC continues to achieve measurable success with respect to leveraged funding as it influences private industry to invest and share in the financing of the 195 projects funded to date. Of total project funding of nearly \$1.7 billion to date, SDTC has allocated \$478 million (or 29 percent of project funding) while other funders have invested close to \$1.2 billion, or 71 percent of project funding. Of particular note is that 84 percent of the leveraged funding comes from the private sector, demonstrating that industry considers these technologies to be good investment opportunities.

SDTC will continue to engage private sector financial organizations, provincial and federal government programs, and strategic investors to provide project funding for applicant consortia. In part, this will be accomplished by continuing to create awareness of the benefits of cleantech investment to investors.

4.2. Project Funding

The first three Funding Agreements specify that the Foundation must allocate \$350 million to support projects that meet the SD Tech Fund objectives associated with climate change and clean air (this figure was subsequently increased to \$400 million in 2010). Of these projects, 80 percent were to be primarily climate change projects and 20 percent primarily clean air projects. These objectives have been surpassed. Of all projects funded by the Foundation, 90 percent have a climate change benefit, and 78 percent generate clean air benefits.

In 2005, the Foundation received an additional \$200 million of funding and expanded its mandate to include technologies that address clean water and clean soil (this amount was subsequently reduced to \$150 million

in 2010). SDTC's work with industry has led to 53 clean water/clean soil projects receiving approval for funding representing \$110 million in allocation. Of these, 16 projects were approved for \$39 million in allocation between July 1, 2009 and June 30, 2010. Currently, 42 percent of SD Tech Fund projects demonstrate clean water and/or clean soil benefits.

SDTC is on track to meet or exceed the \$50 million allocation to projects that contribute to cleaner fossil fuels, as required by Funding Agreement Three. Further, it has a number of projects currently being considered for funding, which, if approved, would likely meet the hydrogen allocation target of \$50 million.

While the allocation targets place importance on the primary benefits of approved projects, funding preference is given to projects that accrue multiple environmental benefits. As of June 30, 2010, 88 percent of SDTC projects created two or more environmental benefits.

SDTC will continue to track its allocation to maintain the portfolio balance described above. For the next twelve months, the Foundation has established the following technology priorities, which will be emphasized in the next call for SOIs in the fall of 2010:

1. Mitigate environmental impacts associated with Canada's natural resource sector, including mining, cleaner fossil fuels and forestry;
2. Enable cleaner energy production;
3. Improve the energy efficiency of built environments, transportation, and industrial processes;
4. Improve the efficiency of the largest water users and address the most sensitive points of water contamination;
5. Increase yield and improve temperature and drought resistance of agricultural crops; and,
6. Mitigate land-use changes and biodiversity loss.

4.3. Attract Private Sector Capital to SDTC Portfolio Technologies

Private sector financing is a fundamental component for the successful commercialization of emerging clean technologies. Investment during the commercialization stage is crucial to generating high growth for innovation-based companies. Recognizing this, since 2005 SDTC has supported an increasing number of maturing portfolio companies in this area. The Foundation has formally launched the Follow-on Funding Program, the goal of which is to secure financing for SDTC portfolio companies to assist with commercialization of their technologies after the SDTC project is completed.

This initiative is intended to serve as an “exit strategy” for portfolio companies to ensure hand off to the private sector so that public investment will see a greater chance of commercial success and maximization of benefits.

This has shown positive results: over the last four-plus years, 43 SDTC portfolio companies, which have received \$130 million in SDTC funding, have successfully attracted \$1.3 billion of follow-on funding.

Additionally, the Foundation has entered into memoranda of understanding (MOUs) with provincial governments and select Canadian corporations. These partnerships will allow SDTC to share some of its best practices on funding and supporting commercialization of clean technologies, as well as to establish a dialogue on cleantech trends and opportunities. During the reporting period, SDTC-supported companies received over \$60 million in provincial funding compared to \$37 million in the previous reporting period. Further, building on an MOU signed with Encana Corporation in 2009, SDTC signed an MOU with Cenovus Energy that will enhance SDTC’s clean energy development initiatives. To date, these two initiatives have resulted in approximately \$9.5 million being directed to clean technology companies.

SDTC will continue to take steps to educate the finance community on economic opportunities within the cleantech sector. Specific measures are expected to include:

1. Organizing and preparing for the second SDTC Cleantech Summit, which is scheduled for October 2011;
2. Ten identified speaking engagements to the investor community;
3. SDTC-TSX Investor Day in Toronto in September, 2010;
4. Capital Connections, scheduled for Montreal and Vancouver in November, 2010; and,
5. SDTC will host the first Canadian Cleantech Venture Summit in December 2010.

4.4. Create Go-to-Market Consortia

SDTC helps applicants to strengthen their proposed value propositions by seeking additional consortia partners, particularly technology end users, as well as stakeholders from industry, the financial community, academia, not-for-profit organizations and federal or provincial governments. These partners add a variety of critical skills, experience and expertise, and may also provide additional project funding that helps to leverage the Foundation’s efforts.

The SDTC portfolio of companies contains approximately 700 organizations that are directly involved in the 195 projects currently funded by SDTC (as of June 30, 2010). By forging partnerships among these organizations, SDTC is helping to build a critical mass of players within Canada who can contribute to the demonstration and diffusion of Canadian innovation, thereby enhancing Canada’s productivity and competitiveness.

SDTC will continue to integrate the creation of go-to-market consortia in all of its primary activities. In addition, the Foundation will continue to provide value-added services to build and strengthen consortia and to increase the likelihood of successful market entry.

4.5. Identify Solutions to Adoption Barriers

The diffusion and demonstration of innovative technologies face a number of barriers: economic, technological, and regulatory, amongst others. SDTC works with numerous stakeholders to identify these barriers and ways to overcome them. One tool for doing this is the SD Business Case™, which is a series of six studies looking at the economic and technological factors affecting the diffusion of sustainable development technologies in Canada. (The SD Business Case will be discussed in greater depth below.)

SDTC participated in a number of other activities that identified and proposed solutions to market barriers, such as the second SDTC CEO Day in the fall of 2009. Attended by 50 cleantech executives, the forum addressed the issues of private-sector funding and government support for accessing export markets. The CEO Day was held in conjunction with the SDTC Cleantech Summit, which is discussed at length in the following section.

In the first half of 2010, the Foundation released *The 2010 SDTC Cleantech Growth & Go-to-Market Report*. This nationally focused study examined the Canadian cleantech landscape, established benchmarks and identified commercialization best practices.

Over the next year, SDTC plans to continue leading and participating in initiatives that address barriers to market access, including a fall 2010 CEO Day and the 2011 SDTC Cleantech Summit. SDTC will continue to work with partners to build on the 2010 study to assess the pathways to global markets for Canadian sustainable development technologies, and to assess domestic carbon abatement cost curves for Canada.

4.6 Workshops and Outreach

Between July 1, 2009 and June 30, 2010, SDTC organized a number of workshops and webinars, including the SDTC Clean Tech Summit in October 2009, which brought together over 250 entrepreneurs, CEOs, venture capitalists, investment bankers, and national and international government officials. The summit focused on the potential benefits cleantech offers the Canadian economy and looked at specific policies and ideas that could accelerate these opportunities. The summit was very well received, and SDTC is currently planning a second one for late 2011.

SDTC also participated in and presented at numerous conferences in 2009. The Foundation accepted invitations to speak at 36 events, including Globe 2010 in Vancouver and Cleantech San Francisco. SDTC often invites portfolio companies to participate as exhibitors at key events. This helps to consolidate the Canadian cleantech brand and increases the profile of SDTC-funded companies, thereby improving their chance of successful commercialization.

SDTC continued to strengthen its relationships with different departments of the federal government. This includes holding monthly meetings to discuss cleantech developments in Canada with a number of federal departments. During the reporting period, the Foundation held approximately 175 meetings with ministers, deputy ministers and other senior government officials to increase their awareness of SDTC initiatives.

Furthermore, SDTC contributed strategic knowledge to several national policy-related initiatives.

In the second quarter of 2010, SDTC opened its third satellite office in Montreal, joining Toronto and Vancouver. This gives the Foundation cross-country representation, improving awareness and understanding of the Foundation's mission through increased local outreach with many key regional stakeholders.

SDTC will continue to host workshops and webinars, and participate in cleantech-related conferences, such as the World Energy Congress (WEC) and the World Water Congress. The strong interactions with government officials, both at the federal and the provincial levels will continue in 2011, making full use of the Foundation's three regional offices.

4.7. Communications

The Foundation undertakes a number of communications initiatives aimed at disseminating related information, educating, and raising awareness of sustainable development technologies in Canada. Over the past year, this included supporting and actively participating in a number of strategically important conferences and workshops. These included eight events with federal ministers and other senior members of provincial and federal governments.

As required under the Funding Agreement, the Foundation released the *SDTC 2009 Annual Report*, the *SDTC 2009 Annual Report Supplement*, and the *SDTC 2010 Corporate Plan*. Each of these was produced and tabled in the House of Commons and Senate, and subsequently circulated among various levels of government, industry and the not-for-profit sector.

Further, SDTC appeared before the Senate Standing Committee on Energy, the Environment and Natural Resources on May 11, 2010 to discuss the requirements for the development of a globally competitive clean technology sector in Canada. This included recommendations for a clean energy strategy in Canada. On October 28, 2009, SDTC appeared before the House of Commons Standing Committee on Finance for Budget 2010 pre-budget consultations to discuss the state of Canadian and global cleantech markets and the role of sustainable development technologies in the new economy.

Between July 1, 2009 and July 1, 2010, SDTC tracked media coverage of 136 news items in which the Foundation was featured. SDTC-supported projects were also well reported in the media during this period with over 327 news items featuring SDTC project companies.

Over the next year, SDTC will continue to strategically evaluate opportunities and avenues to reach target audiences. This will likely include portfolio success stories, media campaigns for SDTC portfolio projects, participation in conferences and other events, and advertising in target publications. The Foundation will also explore the increased use of social media to raise awareness of SDTC and the benefits of clean technologies.

4.8. Business Case for Sustainable Development

The SD Business Case is a series of comprehensive studies conducted by SDTC focusing on the potential for sustainable technologies in Canada's major economic sectors. These studies assess barriers to adoption, including market, economic and technical factors. The solutions identified are designed to meet the needs of industry so it can achieve the vision for the particular sector as defined by the market. They provide rationale for the practical and informed investment of public monies by SDTC and other entities.

To date, SDTC has developed and published SD Business Cases for renewable electricity generation, clean conventional fuels (oil and gas), renewable fuels (including biofuels and renewable fuels), hydrogen, eco-efficiency for commercial buildings, and transport.

In early 2010, SDTC partnered with two consulting firms in association with NRCan and Environment Canada to evaluate Canada's potential role in a global low-carbon economy. This resulted in the development and publication of a report assessing the global potential for emerging Canadian sustainable development technologies. This study was the first of three phases, the second and third of which will be further developed in the second half of 2010 and throughout 2011, pending availability of funding.

5. ACTIONS AND RESULTS – NEXTGEN BIOFUELS FUND

The NextGen Biofuels Fund was established in September 2007 and is aimed at supporting the establishment of first-of-kind large-scale demonstration facilities for the production of next-generation renewable fuels and co-products in Canada.

5.1. 2010 Actions

To raise awareness about the NextGen Biofuels Fund and issues of importance to the emerging next-generation biofuels industry, SDTC conducts ongoing outreach initiatives. SDTC spoke at and participated in ten North American and international biofuel-related conferences between July 1, 2009, and June 30, 2010.

Throughout 2010, SDTC conducted systematic outreach activities targeting leading companies with a view to attracting and facilitating applications for funding. This outreach is aimed at identifying and engaging opportunities to create quality deal flow. SDTC met on a regular basis with stakeholders at NRCan, Environment Canada, provincial governments and related entities to provide project development support. The Foundation also provided policy support to regulatory bodies, including the US Department of Energy.

5.2. 2010 Results

The NextGen Biofuels Fund team pursued sustained outreach efforts in 2010, tracking more than 100 promising next-generation renewable fuels technology companies worldwide. As a result of these efforts, ten companies were identified as high potential candidates for implementing a next-generation renewable fuels project in Canada. Discussions are currently underway to prepare these companies to submit applications for funding.

NGBF received one application for funding in late 2007. However, the process technology and the project concept have been significantly revised since the application filing. Consequently, no funding has yet occurred. Throughout these revisions, SDTC has conducted extensive due diligence on the project proposal. SDTC has also contributed to the project evaluation by identifying relevant risks and formulating appropriate mitigation strategies. Two additional applications for front-end project funding are expected before the end of 2010.

6. FINANCIAL PLAN

6.1. Grants

SDTC continues to operate to distribute the funds in an effective and efficient manner, fulfilling the mandate it has been given under the Funding Agreement. As of June 30, 2010, the investment portfolio for the SD Tech Fund had an overall market value of \$414 million while the NGBF had \$57 million. It should be noted that NGBF funds are obtained from the federal government according to cash flow requirements, as per the NGBF Funding Agreement with the Government of Canada (both amounts are after operational expenses and project disbursements). These portfolio balances include accrued interest as well as funds that have been allocated but not yet disbursed to funding projects.

6.2. Budget

The planned operating expenditure budget for the SD Tech Fund is approximately \$11.7 million in 2011, and the preliminary budget for 2012 is \$12 million. For the NGBF, the planned operating expenditure budget for 2011 is \$2.2 million and the preliminary expenditure budget for 2012 is \$3 million. The human resources required to undertake the NGBF Funding Agreement obligations are available to do so, cost effectively, because for the majority of the time these resources are directed towards the management and operations of the SD Tech Fund. This reflects the fact that the NGBF is predicated on the existence of the SD Tech Fund and is allocated a portion of SD Tech Fund overhead based on usage of staff.

6.3. Allocation and Disbursements

Annual project disbursement payments are projected to be approximately \$50 million to \$55 million in 2010, \$60 million in 2011 and \$80 million in 2012. As of June 2010, the SD Tech Fund allocation is \$478 million with a forecast to allocate the remaining \$72 million by June 30, 2011, with further recapitalization assumed in 2011.

For the NGBF, an amount of \$200 million has been allocated for disbursement between 2012 and 2015, subject to due diligence, front-end development, final investment decision by the interested parties, and approval by the SDTC Board of Directors. Based on a best-estimate approach, it is anticipated that allocations in the amount of \$190 million will be submitted to the SDTC Board between the fourth quarter of 2010 and the second quarter of 2012.

7. RISKS AND MITIGATION

As part of its corporate risk management strategy, SDTC regularly identifies, assesses and monitors existing and emerging business and organizational risks. For each of these risks, SDTC develops and (as necessary) implements a mitigation strategy. Current issues that may pose risks to the SD Tech Fund in the upcoming 12 months (and which are discussed at length in the body of the report) include:

- Regulatory risk
- Economic/market risk
- Recapitalization and momentum risk
- Applicant capacity risk
- Project completion risk
- Follow-on funding risk

Current issues that may pose risks to the NextGen Biofuels Fund include:

- Economic/market risk
- Technology readiness risk
- Financial market risk
- Regulatory risk

The Foundation will continue to work with stakeholders—including technology developers, industry, financial organizations, and governments—to identify these risks and to develop and implement mitigation strategies.



Mission Statement

Goal A

SDTC will act as the primary catalyst in building a sustainable development infrastructure in Canada

Purpose of the Fund

Goal B

Develop and demonstrate new Sustainable Development Technologies (SDTs) related to climate change, clean air, clean water and clean land, in order to make progress towards sustainable development.

Work Scope:

- 1 2 3 9

Goal C

Foster and encourage innovative collaboration and partnering amongst diverse persons in the private sector and in academic and not-for-profit organizations to channel and strengthen the Canadian capacity to develop and demonstrate SDTs with respect to climate change, clean air, clean water and clean land.

Work Scope:

- 3 4 5 7 8

Goal D

Ensure timely diffusion by funded recipients of new SDTs in relevant Market Sectors throughout Canada.

Work Scope:

- 1 3 4 5 6 7 8 9

Work Scope

1 Protect SDTC's Investment

Provide due diligence screening and excellence in contract definition and project management. Integrate funding activities with the financial sector and, where appropriate, complement other programs.

2 Project Funding

Invest in creative collaborative partnerships (representing multiple players in the innovation chain) that enable timely development and demonstration of technology solutions for climate change, clean air, clean water and clean land.

3 Attracting Capital to Clean Tech

Attract additional financing into the clean technology sector and increase the receptivity of the investment community for sustainable development.

4 Create Go-To-Market Consortia

Build and encourage innovative collaboration and partnering among private, academic and non-profit sectors.

5 Broker Non-Portfolio Projects

Broker relationships that accelerate the dissemination of SDT towards the marketplace.

6 Identify Solutions for Barriers to Adoption

Report and communicate to stakeholders and partners, including identification and advocacy around market barriers, energy policy, capital availability, product codes and standards and regulation.

7 Outreach

Increase capacity within Economic Sectors for accessing project funding and improving their management capability.

8 Communications

Educate, raise awareness and promote benefits of Sustainable Development Technologies.

9 Business Case for SD

Build the business case for Sustainable Development Technologies and derive a national strategy for Sustainable Development.

Outputs

Consortia formed which bridge structural break (pre-venture capital gap) in the innovation chain.

Alliances formed with organizations that support future diffusion of technologies.

Contributions to projects to develop, and demonstrate technologies—bridge financing gap.

Policy advocacy influences investing, innovation and energy policies.

Increased capacity among stakeholder groups and partners for SD Technology.

Increased knowledge, awareness and participation in SD—all sectors.

CSectoral road maps, business case, comparison of Canadian capacity for SD, advocacy of policies.

Outcomes/Impacts

Private sector contributions leveraged by two or three times in fund portfolio.

Follow-on support. Investment as a result of, and after, SDTC investment.

Technology solutions addressing climate change, clean air, clean water and clean land.

Increased market for uptake of SDTs.

Increased knowledge, awareness of and participation in SD sector (investment, intellectual property, organizations/companies).

Greater market acceptance and diffusion of SDT.

Increased market receptors for and responsiveness to SD Technologies. National strategy for SD Technology.

Market for SDT transformed.

Environmental impacts/benefits.

Global profile of Canada and Cdn. companies increase in climate change and SDT.

Greater market acceptance and diffusion of SDT.

Increased SD infrastructure in Canada.

Mission Statement

SDTC Mission

SDTC will act as the primary catalyst in building a sustainable development infrastructure in Canada

Purpose of the Fund

NGBF Purpose (c)

Encourage retention and growth of technology expertise and innovation capacity for the production of Next-generation Renewable Fuels in Canada

Work Scope:

- 1
- 2
- 3
- 4

NGBF Purpose (a)

Facilitate the establishment of First-of-Kind Large Demonstration-scale facilities for the production of Next-generation Fuels and Co-products

Work Scope:

- 2
- 3
- 4
- 5
- 6
- 7

NGBF Purpose (b)

Improve the Sustainable Development Impacts arising from the production and use of Renewable Fuels in Canada

Work Scope:

- 3
- 4
- 5
- 6
- 7

Activities/Work Scope

1 Outreach:

Identify and recruit candidate technologies from international outreach and SD Tech Fund.

2 Develop SDTC Knowledge Base:

Collect and conduct biofuels industry studies, identify and maintain roster of experts.

3 Select Qualifying Projects:

Guide and advise proponent. Proponent develops AFF. Conduct due diligence review of AFF, including eligibility criteria and technology readiness.

4 Participate in Project Assurance Process for Pre-Construction Phases:

Monitor, advise, assist planning. NGBF expert reviewers conduct due diligence review of stage report for Decision, provide recommendations to Project Review Committee and Board for decisions.

5 Contribute to Structuring the Project Financing:

Advise and assist structure of financing.

6 Participate as an Active Investor in Construction, Commissioning and Plant Operations:

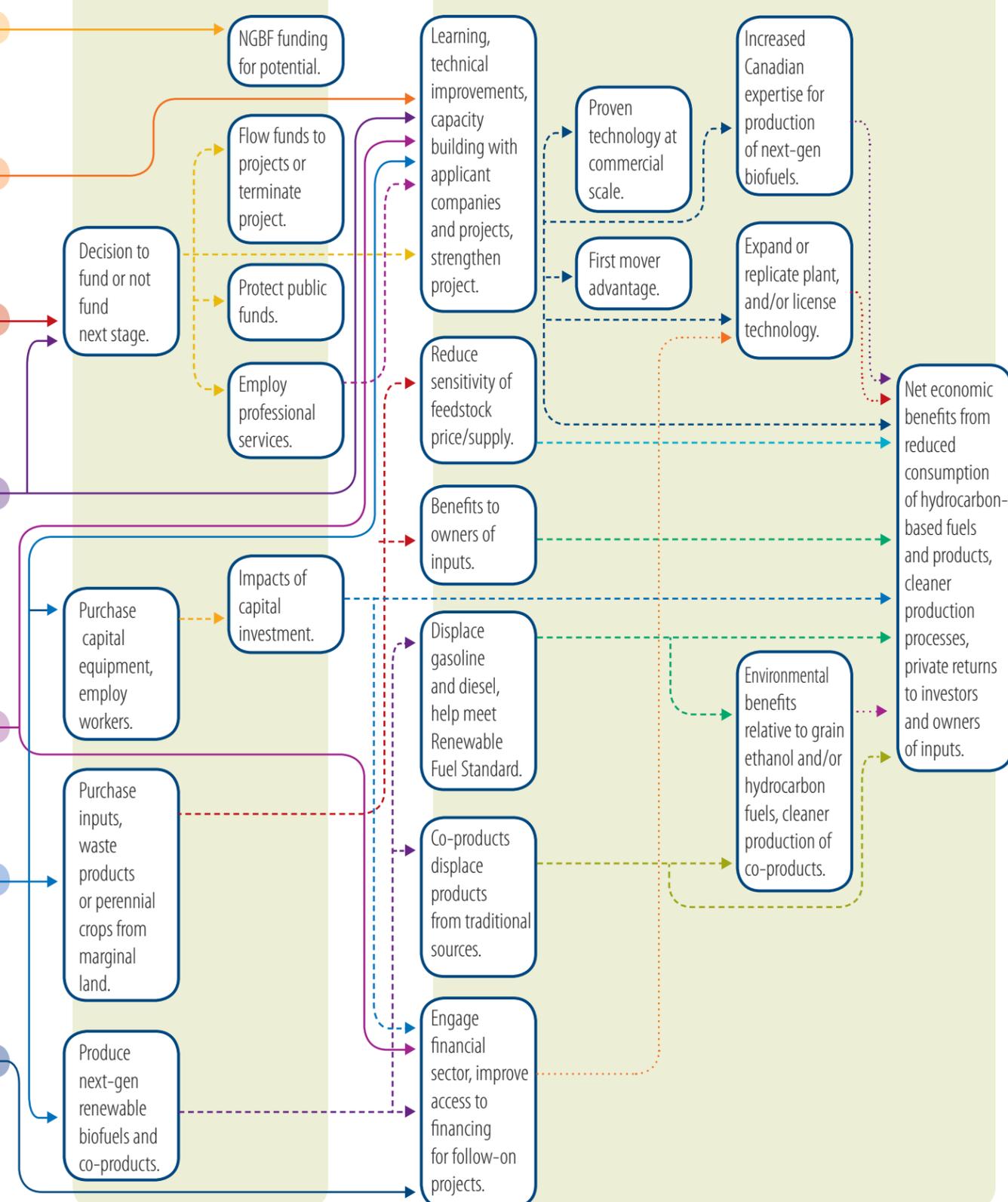
Monitor, advise assist, identify barriers, contribute to solutions.

7 Repay/Close-Out:

Plant repays NGBF investment and/or operates for 10 years.

Outputs

Outcomes/Impacts





SUSTAINABLE DEVELOPMENT
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