SDTC Statement of Interest (SOI) Workshop

“How to Build a Winning SOI”

August – September 2011

John Adams & David Minicola – SDTC Applications Team
“The Foundation will act as the primary catalyst in building a sustainable development technology infrastructure in Canada.”
Mandate

• SDTC is a policy instrument of the Government of Canada to deliver environmental and economic benefits to Canadians.

• As a delivery agent, we foster the development and demonstration of technological solutions that address:
  • Clean Air;
  • Climate Change;
  • Clean Water;
  • Clean Land.

• Forge innovative partnerships and build a SD technology infrastructure.

• Ensure timely diffusion - increase number and rate of uptake of technologies into the marketplace across Canada, providing national benefits.
Governance

- SDTC was created by the Government of Canada
- Registered as a not-for-profit, non-share capital corporation under the Canada Business Corporations Act
- Operates as an arm’s length independent organization
- Funding allocation of $1.09B from Government of Canada
- Accountable to Parliament through the Minister of Natural Resources
- 15 Directors on the Board, 7 appointed by Canada
- Member Council (15) – proxy for shareholders
- International recognition for this Canadian initiative
Objectives

- Increase the pool of available sustainable development technologies
- Fast track technologies to market
- Build private/public sector partnerships / and leverage funding
- Reduce development, market and financial risk
- Build critical mass of sustainable development technology developers
SDTC Snapshot

• SDTC operates two funds:

  • $590 million SD Tech Fund™ launched on April 4, 2002.
  • Aimed at development and demonstration of emerging clean technologies.
  • $548 million allocated to 223 projects.

  • $500 million NextGen Biofuels Fund™ was launched on September 12, 2007.
  • Aimed at establishment of large demonstration-scale facilities for next-generation renewable fuels and co-products.
  • First application currently in due diligence process.

The funds are complementary and address different gaps in the Innovation Chain.
• The SD Tech Fund
Innovation Chain

**Stages of Technology Development**

- **Fundamental Research**
- **Applied Research**
- **Technology Development & Demonstration (Pilot to Full Scale)**
- **Product Commercialization & Market Development**

**Risk Profile**

- **Technology**
  - **Financial**
  - **Market**

- **Financial**
- **Market**

SUSTAINABLE DEVELOPMENT TECHNOLOGY CANADA™
The sources of funding in the Innovation Chain are predominantly available for research and commercialization.
Lack of funding for technology development and demonstration creates a Pre-Commercial Gap in the Innovation Chain.
The SD Tech Fund is positioned to address the Pre-Commercial Gap in the Innovation Chain
The purpose of the Fund is to:

- support the late-stage development and pre-commercial demonstration of technology solutions that address climate change, air quality, clean water, and clean soil;
- encourage collaboration between the public and private sector including industry, academia, non-governmental organizations (NGOs), the financial community and all levels of government; and,
- ensure the dispersion of clean technologies in relevant market sectors throughout Canada.

The SD Tech Fund is open for Statements of Interest twice per year.

Next call for Applications opens August 31 and closes October 19.
The SD Tech Fund™ is structured to increase the success rate of pre-commercial, unproven technologies

- Provides pre-Venture Capital investment into the development and demonstration phases
- Allows a business to allocate existing resources to run their core business
- SDTC typically contributes about 33% of eligible project costs
- Contributions typically range from several hundred thousand to several million
- Cash contributions are non-repayable and requires no equity
- Prevents or defers equity dilution financing while building up value
- Business often becomes venture grade or bankable at the end of the project
Staged Funding Process

The SDTC funding process is structured to facilitate other funding and commercial partnerships:

**Statement of Interest**
- **Applicant Status:**
  - Proof of concept complete with validation
  - Patents / IP protection strategy in development
  - Agreement “in principle” from partners & investors to participate in the project

- **SDTC:**
  - Provides feedback on project
  - Helps to define project scope
  - Possibly suggests consortium partners

**Proposal**
- **Applicant Status:**
  - Advanced discussions with potential partners and investors
  - Commercial and IP agreements in progress
  - Secured letters of commitment

- **SDTC:**
  - Works with applicant to develop full proposal
  - Possibly suggests / brokers intros to consortium partners

**Contract**
- **Applicant Status:**
  - All project partners and investors formally agree to contributions as set forth in the full proposal
  - Commercial and IP agreements are finalized
  - Contract signed, applicant receives first payment

- **Key Activities:**
  - Applicant: Debrief SDTC on potential project
  - Complete and submit Statement of Interest
  - SDTC: Provides feedback on project
  - Helps to define project scope
  - Possibly suggests consortium partners

  - Applicant: Applicant uses successful SDTC SOI to get letters of commitment from consortium partners and investors
  - SDTC: Works with applicant to develop full proposal
  - Possibly suggests / brokers intros to consortium partners

  - Applicant: Advanced discussions with potential partners and investors
  - Commercial and IP agreements in progress
  - Secured letters of commitment

  - SDTC: Works with lead applicant to define project milestones against which SDTC payments will be tied
  - Agreement or other binding obligation in place between project lead and consortium
  - Lead applicant and SDTC sign SDTC Contribution Agreement (Contract)
  - SDTC disburses first payment (less 10% holdback)
Size of Canadian Opportunity

Applications to Date (19 Rounds)

• 2,006 applications (>6100 entities)
• 90% industry-led
• $5 Billion in funding requests
• $19.2 Billion in total project value

Strong Demand

Rate of SOIs remains strong
Number of applications constant
over last 4 years (+/-10%)

Projects Approved (18 Rounds)

• 223 projects
• $548 Million from SDTC
• $1.9 Billion in total eligible project value

There is significant capability to develop clean technologies and a strong demand in Canada for support from SDTC for the associated companies.
• Stage of development – when to submit
• Building the project consortium
• How to scope and structure an SDTC project
• Evaluation criteria
• Quantifying environmental impacts
• The funding process – overview of activities
• Common SOI mistakes
Building a Statement of Interest for the SD Tech Fund
• Stage of development – when to submit

• Building the project consortium
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• The funding process – overview of activities
• Common SOI mistakes
Are You at the Right Stage?

Key Considerations:

Technology:
- Beyond proof of concept
- Pre-commercial

Consortium:
- Key consortium partner relationships initiated and secured “in principle” to proceed at the time of SOI submission

Commercialization:
- At the end of the SDTC project, the technology should be in a position to be commercialized
• Stage of development – when to submit

• **Building the project consortium**

• How to scope and structure an SDTC project

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• Common SOI mistakes
A for-profit corporation, a not-for-profit corporation, a partnership, a limited partnership or a business trust that has entered into a contract or collaborative arrangement relating to the execution of the applicant’s project with one or more of the following legal entities:

- another corporation;
- a partnership, a limited partnership or a business trust;
- a university, college or other provincially accredited post-secondary educational institution;
- a research institute;
- a not-for-profit corporation
International Eligibility

SDTC welcomes technologies originating from outside of Canada, under the following circumstances:

- The lead applicant is legally registered to do business in Canada
- Most of the development work will take place in Canada
- The demonstration takes place in Canada
- The technology needs to have a market in Canada (with export opportunity being important)
- There are lasting economic benefits accruing back to Canada by way of licensing revenues, new spin off industries, manufacturing jobs
- International entities are welcomed to participate as consortium members and are encouraged to contribute into the project
“Go-To-Market” Consortium should include:

- The managerial, business planning, financial, strategic and technological expertise to carry out the development and demonstration parts of the project

- Key players in the value chain for the given technology market, such as, potential end-users / customers, demonstration host(s), researchers, technology developers, strategic suppliers / consultants, investors

- Any organization that stands to profit from the successful commercial deployment of the technology or has specific expertise / resources that is critical to the project success
Consortium Members vs. Suppliers

**Consortium Members:**

- Contribute cash and/or in-kind into the project
- Usually play a strategic role in the project and downstream commercialization
- Could be technology collaborators or channel partners
- Cost to the project is at actual cost (no markup) who have a stake in the project

**Suppliers / Service Providers:**

- Provides goods into the project based on market rates or services on a fee for services basis
- Could be suppliers of commodities or engineering consulting companies or testing labs
- Costs to the project are based on commercially competitive market rates providing a service
Consortium Member Contributions

Why do Consortium Members Contribute?

- New market opportunity
- Exclusive rights to the technology for a particular territory or a specified period of time or specified application
- Get preferred licensing terms / fees
- Early adopter benefits

What does SDTC Need to See?

- Contracts / other binding obligations setting forth the consortium members contributions into the project
- The terms of the commercial agreements with consortium members are to be negotiated independently from SDTC
• Stage of development – when to submit
• Building the project consortium

**How to scope and structure an SDTC project**

• Evaluation criteria
• Quantifying environmental impacts
• The funding process – overview of activities
• Common SOI mistakes
Scoping an SDTC Project

Define Scope based on:

• Activities associated with post proof of concept development and pre-commercial demonstration

• Effective start date cannot be earlier than the board approval date (e.g. June 13 2012 for the current funding round)

• Project activities not to exceed five years from the effective start date

• Eligible SDTC costs
Eligible Project Costs

- All goods and services and professional and technical personnel costs required to plan and conduct the scientific, technical, environmental, management and/or reporting activities directly related to the project.

- The cost of capital items that have no residual value beyond the period of funding of the Eligible Project and are specifically required for the delivery of the project.

- The depreciation expense for the period of funding, of capital items that have an enduring commercial value.

- Feasibility studies pertaining to the Eligible Project.
Non-Eligible Project Costs

For greater certainty, eligible project costs do not include:

- general overhead costs of the Eligible Recipient (e.g. costs of office supplies, equipment and furniture not required for the project)
- the cost to purchase or lease real property
- administrative costs not associated with eligible project costs
- conference or travel costs not specifically required for the project
- costs associated with preparing business plans, marketing studies and licensing of intellectual property
- costs to decommission a funded project
• A total budget should be developed with a breakdown of eligible costs associated with major project phases and capital items.

• At the SOI stage, the budget is understood to be preliminary but should still provide a reasonable estimate of the total project costs and how it will be financed.

• Adjustments at the full proposal stage can be accommodated provided that the scope, structure, and nature of the project do not fundamentally change.
Structuring Multiple Phase Projects

- Some projects are more complex and have longer development timelines (i.e. multiple scale ups)

- These should be structured according to:
  - Distinct development and/or demonstration phases (i.e. multiple-development scale ups)
  - Defined “go/no-go” decision points
  - Defined minimum performance/financing/partnership criteria to justify proceeding to the next phase
  - Involvement and contribution of project partners
  - Timelines for each phase

The starting point of the project must be beyond proof of concept and beyond what can reasonably be handled through upstream financing mechanisms (e.g. IRAP)
Scale Up

- Different technologies / processes have different scale up parameters
- Follow industry accepted scale up parameters
- Moderate scale ups may help to mitigate technology risk

**Example Scale Up:**

1. **Proof of Concept** → **Lab Prototype** → **Pre-Commercial Demo Scale** → **Commercial Scale**
• Stage of development – when to submit
• Building the project consortium
• How to scope and structure an SDTC project

**Evaluation criteria**

• Quantifying environmental impacts
• The funding process – overview of activities
• Common SOI mistakes
Technical Description

• Describe differentiators from existing technology/process

• Innovation should be technically, environmentally and economically superior

• Can include process flow / schematic in SOI
Technology Application

• Address market dynamics and economic drivers for the new technology

• In terms of return on investment / payback period, address total cost of ownership including capital costs, install and integration costs and ongoing operating / maintenance costs

• If claiming products / co-products have commercial value then substantiate – has it been validated by a representative end-user for commercial quality?
• Include technical, environmental and economic performance comparisons to competing companies, technologies or status-quo

• Clearly define the Sustainable Competitive Advantage

• Remember – the best technology doesn’t always win!
Generation of IP

- Projects that are demonstrating “best practices” that do not result in something that can be commercialized stand a lower chance with SDTC
- Distinguish between background IP (existing) and incremental IP (to be developed)

Clear rights to the IP

- Applicant must demonstrate that they have rights to the IP and there are no legal encumbrances on the IP

Strategies for Defending the Intellectual Property

- Applicant should demonstrate how they plan on protecting the IP (via patents, trade secrets, etc.)
Market Planning

• The project consortium should include key elements of the eventual supply chain (e.g. manufacturing, distribution, OEM, licensing, etc.)

• Demonstrate how the technology will be commercialized, including the potential role of project partners in the commercialization

• Provide a high level overview of the initial market entry plan and how future market opportunities will be handled

• How is after-market support going to occur?
• Demonstrate familiarity with the market
• Identify market barriers, such as:
  • Reluctance by customers to try something new
  • Lack of funding for technology development
  • Lack of regulatory drivers
  • Discriminatory regulations or policies
  • Skills / training
  • Supply chain dynamics
  • Economic factors
  • Customer purchasing behaviour
• Address plans to overcome market barriers
Technology Barriers

- Project should involve at least a moderate level of technology risk, otherwise conventional financing should be possible.

- Outline appropriate technology barriers (i.e. scale up risk, integration risk, performance risk, deployment risk).

- Describe how these risks will be managed.

- Technology collaborators in the consortium can play a central role in overcoming key technical barriers.
Executive Summary

• Should represent a high level synthesis of the overall SOI
• Provides an opportunity to provide additional context, such as industry challenges, longer term vision, etc.
• Stage of development – when to submit
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• How to scope and structure an SDTC project
• Evaluation criteria – overview of key SOI sections

**Quantifying environmental impacts**

• The funding process – overview of activities
• Common SOI mistakes
Environmental Impacts Calculations

- At the SOI stage, calculations of environmental benefits are an initial estimate based on available industry data, emission factors and market roll out projections for the new technology.
- Should be based only on the technology that is being developed and demonstrated in the SDTC project.
- Determine an appropriate baseline - can be static or can use a trend as a baseline.
- Account for possible co-benefits (GHG, clear air, water, soil).
- Account for possible factors which reduce net benefits (e.g. energy inputs, transportation, etc.).
- Enabling technologies: account for environmental benefits which could only be realized when the enabling technology exists.
- At the SOI level the calculations do not need to be prepared by qualified consultants.
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• **The funding process – overview of activities**
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Staged Funding Process

Phase 1
- Statement of Interest
  - SOI Round Opens:
  - SOI Round Closes:

Phase 2
- Detailed Proposal
  - SOI Competitive Review Process
  - Due Diligence, Investment Committee & Board Funding Decisions

Phase 3
- Contracting
  - Announcement:
  - Proposal Due:
  - Contract Completion:

Round 20 (2011B)
- Aug 31, 2011
- Oct 19, 2011
- Nov 23, 2011
- Jan 18, 2012
- June 27, 2012

IN SCOPE
- (Up to 5 years)

OUT OF SCOPE
Sustainable Development Technology Canada

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Create a profile

If you have forgotten your password, please click the button below.

Forgot your password?

Entering your login information will allow you to access the numerous functions of Grantium. You will have your personal workspace where you will be able to register and apply on-line.

User Name: [ ]
Password: [ ]

Enter your personal workspace
The Online Application System

Funding

- SD-Tech Fund
- NextGen Biofuels Fund

About SDTC
- Funding
- Results

Online Application System

Who can apply:
- Eligible projects
- Eligible Project costs
- Phase I = SOI

How SDTC can be
- SDTC does not rage
- We invite applicants
- application process s
- value propositions s
- funding.

Online Application System
- Phase II = Proposal
- Contracting
- SDIRS Report

Market ready
- By helping applicants
- spectrum of a tech
• Stage of development – when to submit
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• Evaluation criteria – overview of key SOI sections
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• **Common SOI mistakes**
Common SOI Mistakes

SOI DON’TS:

• Proven technology = no need for SDTC
• Research Activities = too early for SDTC
• Business / Project Financing = not eligible for SDTC

Other common errors:

• “Black box” syndrome - insufficient details on technology
• Too many details, jargon, acronyms – write for a technical generalist
• Absolute claims – “completely sustainable”, “100% eco friendly” without supporting data
• Lack of supporting performance data (we need to know how the technology works)
• Not describing the roles of the different consortium members
Summary of Key Elements of a Successful SD Tech Fund™ SOI:

- Level of Innovation
- Environmental Co-benefits
- Industry leverage & partnerships (consortium)
- Potential for broad and rapid market diffusion
- Generation of (defendable) intellectual property
- Strategies on how to handle intellectual property
- Inherent technical and / or markets risks
- Strategies to mitigate technical and / or market risks
- Existing SDTC investments (portfolio saturation)
Questions & Answers
Talk to us before you apply:

John Adams
Director, Applications
613 234 6313 x234
j.adams@sdtc.ca

David Minicola
Manager, Applications
613 234 6313 x310
d.minicola@sdtc.ca

Sustainable Development Technology Canada

45 O’Connor Street, Suite 1850

Ottawa, Ontario   K1P 1A4

www.sdtc.ca
### GHG & Clean Air Tables

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