



SDTC CORPORATE PLAN 2022-23: ADDENDUMS

(1) Intellectual Property Strategy

**(2) Capital Intensive Decarbonization
Strategy**

SUMMARY:

As part of Contribution Agreement IX between ISED and SDTC, ISED requested that SDTC articulate

- (i) a Capital Intensive Decarbonization Investment Strategy; and,
- (ii) an Intellectual Property Strategy.

The two strategies are provided below as an addendum to the SDTC 2022-23 Corporate Plan which was submitted to Minister Champagne on 31 January 2022. Next year, these plans will be integrated into the Corporate Plan when it is submitted to the Minister.

(1) INTELLECTUAL PROPERTY (IP) STRATEGY

BACKGROUND TO IP STRATEGY

SDTC has long recognized the role of intellectual property and data in the successful commercialization and scale-up of sustainable technologies and companies. Historically, this recognition has been transformed into action in the following ways:

- ***Operationally:*** The assessment of IP strategy and a firm's Freedom to Operate¹ are a key pillar of the assessment process when we look to invest in a project and company.
- ***Strategically:*** In SDTC's Corporate Plan for 2022-23, we noted that IP and data assets are foundational to growth. This is evident in the rapid shift of market value toward intangibles and in reports from McKinsey & Company that top growing companies are investing 2.6 times more in intangibles than low growers.² This has been a frequent theme at meetings of our Board of Directors and SDTC's Annual Leadership Summits since 2017. Arising from these discussions are our focus on IP education for our clients, ecosystem mapping and creating net-benefits for Canada through the commercialization of IP in Canada.
- ***Creating net-benefits for Canada through the commercialization of IP in Canada:*** Growing Canadian Benefits requires multiple approaches and tools across the ecosystem. SDTC has recently strengthened its repayment provisions to decrease the ease of exit of Canadian benefits and protect taxpayer dollars. Repayment provisions will be triggered if the intellectual property is no longer resident in Canada.
- ***IP education for our clients:*** In the early years, this education was piloted by SDTC with external consultants. More recently, our approach to IP Education has been in partnership with the Innovation Asset Collective (IAC), Canada's patent collective pilot initiative.³
- ***Ecosystem mapping:*** In 2016, SDTC, in collaboration with Cycle Capital Management, produced a landscape and benchmark analysis to get a global view of Canada's relative position in patent filings and other key measures. In 2018, SDTC commissioned an IP commercialization lookback to review and propose changes to the consortium structure requirements and IP strategy requirements for projects. More recently, SDTC has begun working with the IAC to collaborate on landscape studies on areas of strategic importance to our portfolio.

ISED REQUEST TO FORMALIZE REPORTING

In SDTC's Contribution Agreement with ISED, there was a specific request to share our Intellectual Property Strategy:

¹ Freedom to operate, also known as FTO or right to use, means you have the freedom to test, market, or sell a product or service in a specific area.

² [Getting tangible about intangibles: The future of growth and productivity? | McKinsey](#)

³ For further information, see [Home - Innovation Asset Collective \(ipcollective.ca\)](#)

17.02 Intellectual Property Strategy. *The Foundation shall develop an Intellectual Property Strategy in consultation with the Minister that encourages the Ultimate Recipient to commercialize, use, protect and/or license Intellectual Property developed as a result of Eligible Projects. This strategy shall be designed to foster innovation in support of sustainable development in a manner that maximizes return on investment for Ultimate Recipients and for Canada as a whole. The Foundation shall review its Intellectual Property Strategy annually and provide notice to the Minister of any proposed changes. The Foundation shall include the following provisions in the Intellectual Property Strategy:*

- (a) plans or approaches for encouraging the Ultimate Recipient to develop a plan for the commercialization, use, protection and/or licensing of Intellectual Property developed as a result of the Eligible Project;*
- (b) approaches to ensure that the Ultimate Recipient shall own or have a license to use any Background Intellectual Property necessary to complete the Eligible Project; and*
- (c) approaches to ensure that the Ultimate Recipient shall own and have a right to license any Intellectual Property developed as a result of the Eligible Project.*

AREAS OF FOCUS FOR 2022-23

Building upon work done to date, areas of focus for 2022-2023 are:

- 1. Enhanced IP Due Diligence Framework and Development of Tailored Client Strategies**
- 2. IP Education**
- 3. IP Ecosystem Mapping**
- 4. Review of IP Contract Clauses**

ENHANCED IP DUE DILIGENCE FRAMEWORK AND DEVELOPMENT OF TAILORED CLIENT STRATEGIES

SDTC endeavors to have its portfolio companies develop and deploy tailored IP strategies that are well structured to support their individual success. SDTC will work towards this area of focus with an updated due diligence process designed in collaboration with the Innovation Asset Collective. This enhanced due diligence process will yield a common assessment framework, leveraging IAC's methodology, that categorizes portfolio companies into defined IP sophistication groups e.g., those that have no IP or data strategy to those with fully integrated and forward-thinking strategies. To determine the level portfolios are at, SDTC will review their IP and data strategies, the agreements they have in place and their people and processes.

With this framework, SDTC companies will be assessed on their IP sophistication and, in turn, facilitate tailored growth opportunities and the creation of an IP database from which IP positions can be compared. To further target companies where they are in their IP journey, the IP Framework will be

complemented by continuous reporting touchpoints, tracking IP successes and failures over time and allowing for real-time updates to our approach.

IP EDUCATION

SDTC aims to become a key facilitator in IP Capacity Building among its portfolio companies. In the area of IP Education, SDTC has made progress with the launch of an IP Workshop Series in collaboration with the IAC in October 2020. The IP Workshops, facilitated by the IAC and other IP experts, are catered specifically to business strategy and scaling, and rely on peer-to-peer learning and experienced mentor guidance. Mentors are a crucial component and are selected from SDTC portfolio companies with strong IP positions and leadership in their space. Networks form between mentors and attendees, contributing to a continuous sharing of IP knowledge.

Going forward, our IP Workshop Series will evolve with the introduction of the IP Due Diligence Framework. The four IP sophistication groups will allow for better tailoring of education pathways, in a scalable manner, by automatically directing SDTC companies into active education programs available to their category. The IP Framework and continuous IP reporting touchpoints will enable the effectiveness of the workshops to become more readily measurable as we understand how portfolio companies are advancing their IP sophistication.

IP ECOSYSTEM MAPPING

The focus on Ecosystem Mapping will see SDTC direct research towards identifying where future IP discussions need to happen, facilitating those discussions, and moving to supply portfolio companies with intelligence and education programs that are relevant to their respective sectors.

Through landscape reviews on the Electric Vehicle Supply Chain and Agriculture industries, SDTC has gained an invaluable understanding of the competitive landscape facing our portfolio companies in these industries. In partnership with the IAC, SDTC will continue this research in 2022/2023 with two to three competitive and intellectual property landscape reviews to better understand areas of threats and opportunity. These findings will be used to equip portfolio companies with renewed strength to defend against predatory actions from competitors and non-Canadian investors.

REVIEW OF IP CONTRACT CLAUSES

Through the annual review of the clauses in our project funding agreement SDTC will ensure that we are maximising net Canadian benefits by retaining IP rights in Canada.

KEY INDICATOR

The approach we have taken in our strategy ensures we meet clause 17.02 (a) through our education offering and we address 17.02 (b) and (c) through our due diligence framework.

In addition to which, the following performance target will be tracked:

The percentage of our total portfolio that progresses through the IP assessment framework from application to project finish. Note that on a go-forward basis this indicator will be added to the Performance Management Strategy Framework, referenced in Appendix D in the Corporate Plan.

(2) CAPITAL INTENSIVE DECARBONIZATION STRATEGY

BACKGROUND TO THE CAPITAL INTENSIVE DECARBONIZATION STRATEGY

In 2018, SDTC recognized a funding gap related to Front-End Development (FED) projects that will lead to final investment decisions for capital-intensive projects. In recognition of this gap, SDTC stretched its mandate and, commencing in 2018, began funding FED activities.

What is a FED program?

At the conclusion of a technology demonstration, project sponsors need to undertake Front-End Development (FED) activities, a necessary step to define a commercial-scale project before it can be considered “bankable” by investors and project lenders. These activities are also known as pre-final investment decision costs or pre-FID costs.

Front-end development is an industry accepted and successfully used approach to properly define a project prior to financing, construction, and commissioning. It is a stage-gated approach that contributes to mitigating all risk categories, including cost escalations, completion risks, warranty risks, feedstock and supply offtake agreements, financial risks, market risks and management risks.

The adoption of such an approach is standard for projects seeking non-recourse project financing and should proceed after a technology has been proven out at a smaller scale i.e., pilot or demonstration scale. A FED project plan is characterized by multiple stage gates, where clearly defined deliverables must be met before the project can move on to the next phase. Meeting the gate criteria contributes to the overall risk mitigation activities.

A FED program can take up to 1-3 years to complete. Project sponsors need adequate funding for FED activities and the associated skills/advisory support needed to execute these activities. However, project finance debt is ill-suited for this stage of development due to the risk profile involved. It is better suited for funding via equity, quasi-equity or grants at the Shareholder/Parent level. The typical spend will represent 3-5% of the overall capital cost of a project, therefore a significant amount of risk capital is required.

ISED REQUEST TO FORMALIZE STRATEGY AND REPORTING

As part of Contribution Agreement IX between ISED and SDTC, ISED requested that SDTC articulate a Capital Intensive Decarbonization Investment Strategy (clause 9.04):

The Foundation shall develop a Capital Intensive Decarbonization investment strategy in consultation with the Minister that encourages allocation and disbursement of the Contribution with particular emphasis on Eligible Projects whose scope covers Front-End Development (FED) work that will lead to final investment decisions for high capital intensive projects, in accordance with subsection 7.01(k), and that the Foundation may reasonably expect to contribute to the decarbonization of Canada’s high GHG-emitting economic sectors. The Foundation shall develop performance targets as part of the Capital

Intensive Decarbonization investment strategy to be included in the Performance Measurement Strategy Framework, in accordance with Section 12.05. The Capital Intensive Decarbonization investment strategy shall be approved by the Board of Directors and the Minister shall be notified of all amendments.

2022-23 CAPITAL INTENSIVE DECARBONIZATION INVESTMENT STRATEGY

SDTC will provide non-repayable contributions to companies whose Eligible Project scope covers Front-End Development (FED) work that will lead to a final investment decision for capital-intensive projects that can promote Sustainable Development. Funding will not be limited to applicants whose technologies were demonstrated in a prior SDTC project.

SDTC will follow its normal due diligence and assessment process. Emphasis will be placed on ensuring that an Applicant has proposed a structured project plan that follows accepted practices for FED programs:

- Sufficient technology demonstration and de-risking that warrants a project to move into a front-end development program.
- A project plan characterized by multiple stage gates, where clearly defined deliverables (for example, increasingly accurate cost estimates) must be met before the project can move on to the next phase.
- A sufficient and complete set of project development activities that can lead to a final investment decision. These activities include early-stage contract negotiations (e.g., supply contracts, offtake contracts and/or engineering, procurement, and construction contracts), completion of environmental and social studies, completion of engineering and design studies, incurrence of advisory costs (e.g., financial advisory), siting activities, and advancing project permitting.
- Staged investment with clear decision criteria at each stage-gate. As required, project partners decision criteria will also be included at each stage-gate.
- Path to financing, incorporated into the stage-gate criteria.

As per normal practice, SDTC will engage expert reviewers to help assess an application for funding.

A Recipient of funding under this strategy will work with SDTC to organize the Eligible Project scope and milestone disbursements such that it maps onto and aligns with the program's stage-gate deliverables. Disbursements will only occur once the Recipient, its partners, and its project sponsors have confirmed that they have passed a stage-gate and are proceeding to the next stage of the FED program.

Otherwise, Eligible Projects shall be compliant with all other criteria as practiced by SDTC.

PERFORMANCE TARGETS

In addition to the metrics SDTC tracks under its Performance Measurement Strategy, the following performance targets will be tracked:

- Number of projects funded under this strategy
- Total funding awarded under this strategy

- Number of projects under this strategy that have successfully achieved a final investment decision and subsequently led to the construction and start-up of a facility.

-Ends