

List of Acronyms:

- CECR: Centres of Excellence for Commercialization and Research
- NCE: Networks of Centres of Excellence
- PMS: Performance Measurement Strategy
- PMSF: Performance Measurement Strategy Framework
- PSAB: Private Sector Advisory Board
- RMAF: Result Based Management and Accountability Framework
- RBAF: Risk Based Audit Framework
- S&T: Science and Technology
- T&Cs : Terms and Conditions

NCE Management Response to the 2012 Summative Evaluation of the Centres of Excellence for Commercialization and Research (CECR) Program

Context

The Centres of Excellence for Commercialization and Research (CECR) program was created in 2007 to support the operation of research and/or commercialization centres that bring together people, services, and research infrastructure to position Canada at the forefront of breakthrough innovations in the four priority areas of the federal government's Science and Technology (S&T) Strategy: (1) Environmental science and technologies; (2) Natural resources and energy; (3) Health and related life sciences and technologies; and (4) Information and communications technologies.

Three competitions for new centres were held in 2008, 2009 and 2010 during which 22 centres were selected for funding for five years. As planned in the initial CECR program Integrated Results-based Management and Accountability Framework and Risk-Based Audit Framework (RMAF-RBAF), two evaluations have taken place: a formative evaluation conducted by Ekos Research Associates in the second year of the program (2009), focusing on the program initial design and delivery, and a summative evaluation (2012), focusing on the relevance and performance of the program. EKOS Research Associates was contracted again, via a competitive process, to conduct the 2012 summative evaluation. A final report addressing the main issues of this summative evaluation, (1) Relevance, and (2) Performance (Effectiveness, Efficiency and Economy), was submitted to NCE Steering in June 2012.

The present management response addresses the recommendations of the 2012 summative Evaluation Report. Recommendations from the evaluation report with detailed responses and an proposed action are provided below and summarized in a table.

NCE Management Response

Overall comments:

While recognizing the early nature of the 2012 summative evaluation, NCE Management regards the evaluation report as a sound analysis of the available information and agrees with the conclusions and recommendations made in the report. As noted below, some of these actions were already initiated based on early findings from the evaluation and the PSAB report.

Recommendation 1:

The NCE Secretariat should consider providing an opportunity for extension or renewed funding for centres in both research and commercialization, and commercialization streams to allow Centres to advance implementation of their business model and begin to realize a return on investment. The funding extension/renewal decision should consider factors such as Centres' achievement of objectives outlined in their funding agreement, demonstrated value to the sector (e.g., demand for services, partner contributions) and international interest garnered by the

Centre. Given the high degree of variability in the time to market for new technologies, the evaluation of the extension/renewal request should take the sector into consideration.

Response:

Management agrees with this recommendation, which is consistent with the recommendation made by the Private Sector Advisory Board (PSAB report Nov 2011, p. 14). Based on the PSAB report and the early findings of the evaluation (presented in February 2012), Management has initiated action on this recommendation and developed revised Terms and Conditions for the CECR program that include a process and guidelines to allow centres with either a commercialization or research focus reaching the end of their funding period to apply for an extension to their funding period and/or compete for additional funding.

Corporate and business plans will form the core of the review process for any extension period with centres being assessed on achievements to date, a clear demonstration of potential for increased impact, need for funds, and a realistic plan to reach self-sustainability during the extension period. To encourage centres to move away from reliance on NCE-CECR funding and toward sustainability, measures will be put in place to reduce funding over the course of the grant period. As recommended by both PSAB and the evaluation report, the needs of different sectors will be taken into consideration in terms of the amount and duration of any funding extension.

Proposed Action:

Undertake steps necessary to allow existing CECRs nearing the end of their funding period to apply for an extension in time to their funding period, or to compete for additional funds. As explained above, some of these actions were initiated early, based on early findings from the evaluation and PSAB report.

- a) Update the program T&Cs (approved May 2012), and the Performance Measurement Strategy (PMS), including the logic model and the Performance Measurement Strategy Framework (PMSF) (May 2012).
- b) Update the CECR program guide and prepare a competition framework, guide and application forms (February 2012).
- c) Launch a competition for the first CECR cohort whose grants expire March 31, 2013 allowing them to apply for an extension in time or additional funding (approved May 2012).

Recommendation 2:

The NCE Secretariat should continue to reinforce the program's focus on commercialization. Commercialization, particularly of early stage technologies to bridge the commercialization gap, is a distinguishing feature of the program, contributing to its niche in the array of federal research and development programs. Moving forward, it will be important for the program to remain flexible to promote and support a variety of innovation models and approaches, including service, process and social innovations, to achieve its commercialization outcomes.

- a) *The NCE Secretariat should review the stated intended outcomes of the CECR Program to ensure that they are more closely aligned with the evolving focus of the program on commercialization and are articulated to avoid redundancies among the outcome*

- b) *Given that there are few examples of research and commercialization intermediaries that are self-sufficient, the NCE Secretariat should expand on its expectations and definition of self-sufficiency of the Centres. The rationale for self-sufficiency and successful Canadian and/or international examples that could provide a model for long-term viability of the Centres should be identified.*

Response:

Management agrees with this recommendation. The initial program documentation had a dual focus on research mobilization and commercialization, which led to confusion with respect to the expected outcomes. In the last two competitions, following advice from PSAB and NCE Steering, the focus was narrowed toward commercialization outcomes. This shift is reflected in the revised T&Cs and in the updated logic model and PMF (approved May 2012).

Management agrees that the current definitions of highly qualified personnel (HQP) training are currently aligned with research-based definitions used in more academic programs in the granting agencies, and that HQP definitions and requirements for the CECR program should be clarified to ensure a better fit with the increased focus on commercialization.

Management agrees that the program documentation should be revised to reflect the increased focus on commercialization and the expectation of self-sustainability of funded centres. As recommended by the evaluation report and by the PSAB, the program will continue to support flexible models of commercialization responsive to the needs of different sectors and a broader definition of sustainability, and will develop best practices based on national and international examples.

Proposed actions:

- a. Review the program's expected outcomes in the CECR program's T&Cs and other program documentation based on the 2011 PSAB report and the preliminary findings of the 2012 summative evaluation to include the following changes:
- Streamline expected outcomes, with an overall focus on commercialization;
 - Removal of reference to particular set of objectives for "research-focused" CECRs and the statement that only centres with a "research focus" would be eligible for funding renewal; and
 - Revise of HQP training requirements to make them less academic and more aligned with the goals of the CECR program, adding reference to attraction and retention of business personnel.

The T&Cs and Program Guide were revised in February 2012, PMSF in May 2012.

- b. In the new competition guidelines, mention of the need for a Human Resource Plan outlining development of personnel competencies with suitable expertise (e.g., management, business, marketing, legal, technology transfer, and knowledge mobilization) aligned with the corporate and business plans and focus on the interface and exchange between research and commercialization (February 2012).

In program documentation, clarify the criterion and definition of self-sustainability to mean a reasonable continuity of a centre's activities funded by its own revenue streams, as well as by stakeholder investments, confirmed contributions from other sources of funds, and membership fees. In new competition guidelines, centres applying for new funding will need to demonstrate clearly how their business model will generate revenues or contributions from partners and reduce their reliance on CECR funding. A clear description of collaborations, joint ventures and partnerships with the public and private sector will be required. (February 2012).

- c. Carry out a post mortem review following the competition for extended time or additional funding, in order to identify possible improvements in the adjudication process and supporting documentation, and best practices with regard to self-sustainability and ways to address the commercialisation gap.

Recommendation 3:

Recognizing that improvements to the performance reporting template have been made over the CECR program cycle and universally accepted indicators to measure progress of a discovery toward commercialization are limited, the NCE Secretariat should continue to seek improvements to Centres' performance reporting. Three areas are identified:

- a. *Definitions of key concepts – The NCE Secretariat should work towards providing more detailed definitions of key performance indicators to strive for greater consistency in the way in which Centres populate the reporting template. Ongoing communications and guidance to the Centres on completing the templates is essential to ensure program performance measures are accurate and timely. The creation of a web-based reporting system may be helpful and the feasibility of obtaining regular partner/client feedback on the impact of their interactions with the Centres (such as through an online assessment form or third party assessment) could be explored.*
- b. *Review of performance measurement needs – The NCE Secretariat should review its current annual report template to ensure that all measures are required and being used for assessment of the centres' performance and that measures that may be useful to understand the centres' contributions to the CECR Program outcomes and value to the sector are not overlooked (e.g., recruitment of business talent). Due to the heterogeneity of the centres, it is recommended that, in addition to measures related to commerce (company creation, jobs), qualitative measures of performance – including broader measures such as impacts on the health care costs – be included for Centres to tell their performance story. Centres could be asked to describe possible economic or societal impacts of the innovations they help to commercialize.*
- c. *Management practice - ensure that adequate time and effort are available for NCE Secretariat senior program managers to review and vet the performance information provided by the Centres. The feedback memorandums are useful, but could be more tailored to document Centre strengths, as well as weaknesses. This would be an important tool to enhance continuity in the event of turnover of NCE Secretariat staff.*

Response:

Management agrees with this recommendation. The initial Performance Measurement Strategy Framework was developed with the T&Cs at the start of the program in 2008 and annual reports were designed based on this initial framework. Following recommendations from the formative evaluation in 2009, annual report instructions/templates were revised in consultation with the ongoing centres but the 2008 RMAF was not updated to reflect these changes. Recent changes in expected outcomes recommended by this evaluation, including stronger focus on commercialization, and others (e.g., with regard to training and social innovation), require another review and update of the PMS. The revised PMS will also explore the possibility of including indicators specific to each centre along with common program indicators. Recognizing also the need to ensure better clarity, accuracy and consistency in reporting across the program, the NCE Secretariat has developed new approaches to review and provide feedback on annual reports.

Proposed action:

The PMS and annual reporting instructions/templates will be reviewed to reflect the new focus of the program, with special attention to issues reported in the evaluation report:

- a) Definition of key concepts: develop an initial list of definitions provided to the centres with the annual reporting instructions to increase consistency (started in February 2012).
- b) Put in place a web-based annual reporting system that will facilitate reporting by centres (under development).
- c) Undertake, in collaboration with funding and other partner agencies, a review of the PMSF (program theory, logic model and PMS) to ensure that it adequately represents the program expected outcomes and results, and that all the collected metrics are required and used by the program for communications, performance monitoring, and to effectively support program evaluation. Special attention will be placed on specific aspects, such as: developing better metrics to report on personnel supported, trained and recruited by the centres or firms that they support, better ways to represent health, technology and social innovation and long-term socio-economic impacts of innovations the centres help to commercialize. Documents, reports and studies provided by the centres will contribute to identifying a set of indicators unique to each centre, along with the common program indicators.
- d) Put in place additional steps to ensure better performance oversight, and review of the centre's annual reports for consistency and accuracy, and provide more specific feedback to centres. By example, the review draft reports by NCE staff prior to submission by the centre's Board of Directors to assist them in preparing better reports, was done in 2012. Centre-specific comments will be included in the feedback provided to them.

Contacts: For further information on the Program Management Response, please contact Lisa Drouillard, Deputy-Director, NCE Secretariat, or Susan Morris, Director, Evaluation, NSERC.

NCE- CECR Program Management Response Summary and Action Plan

Recommendations	Agree/ Disagree	Proposed Actions	Responsibility	Timelines
<p><i>Recommendation 1.</i></p> <p>The NCE Secretariat should consider providing an opportunity for extension or renewed funding for Centres in both research and commercialization, and commercialization streams to allow Centres to advance implementation of their business model and begin to realize a return on investment. The funding extension/renewal decision should consider factors such as Centres' achievement of objectives outlined in their funding agreement, demonstrated value to the sector (e.g., demand for services, partner contributions) and international interest garnered by the Centre. Given the high degree of variability in the time to market for new technologies, the evaluation of the extension/renewal request should take sector into consideration.</p>	Agree	<p>NCE Secretariat will implement a process to allow centres to apply for an extension in time with or without additional funding when they reach the end of their first grant period. New parameters will be developed taking into account the program emphasis on sustainability, and the range of business models supported by the program to be responsive to the needs of different sectors.</p> <p>Required actions are:</p> <ol style="list-style-type: none"> a. Update the program T&Cs and Performance Measurement Strategy (PMS), including the logic model and the Performance Measurement Strategy Framework (PMSF). b. Update the CECR program guide and prepare a competition framework, guides and application forms. c. Launch a competition for an extension in time or additional funding. d. Competition Report submitted to PSAB and Management. 	NCE-CECR Secretariat	<p>May 2012-March 2013</p> <ol style="list-style-type: none"> a. Revised Terms and Conditions approved (May 2012) b. Completed (May 2012) c. Competition launched in (May 2012) d. Decision by PSAB and Steering in Dec. 2012.

Recommendations	Agree/ Disagree	Proposed Actions	Responsibility	Timelines
<p>Recommendation 2.</p> <p>The NCE Secretariat should continue to reinforce the program's focus on commercialization. Commercialization, particularly of early stage technologies to bridge the commercialization gap, is a distinguishing feature of the program, contributing to its niche in the array of federal research and development programs. Moving forward, it will be important for the program to remain flexible to promote and support a variety of innovation models and approaches, including service, process and social innovations, to achieve its commercialization outcomes.</p> <p>a. The NCE Secretariat should review the stated intended outcomes of the CECR Program to ensure that they are more closely aligned with the evolving focus of the program on commercialization and are articulated to avoid redundancies among the outcome statements. This recommendation pertains specifically to the intended research outcomes of the program and the intended outcome for providing training opportunities to HQP.</p> <p>b. Given that there are few examples of research and commercialization intermediaries that are self-sufficient, the NCE Secretariat should expand on its expectations and definition of self-sufficiency of the Centres. The rationale for self-sufficiency and successful Canadian and/or international examples that could provide a model for long-term viability.</p>	<p>Agree</p>	<p>Revise the program's Terms and Conditions, which expire June 2012, and program documentation. Some actions were initiated based on the evaluation preliminary finding and PSAB 2011 report:</p> <p>a. Review the program expected outcomes in the Program Terms and Conditions, and other documentation (e.g., logic model, performance measurement system framework, and program guide) to reflect the overall focus on commercialization, remove the statement that only centres with a research focus would be eligible for funding renewal, and revise HQP training and development requirements to make them less academic in nature and more aligned with the goals of the program.</p> <p>b. In competition guidelines, add mention of the need for a human resource plan outlining changes or development of personnel competencies, with suitable expertise (e.g., management, marketing, legal) and related HQP priorities aligned with the centres plans.</p> <p>c. In program documentation, clarify the criterion of self-sustainability. Centres applying for new funding will need to demonstrate clearly how their business model will generate revenues or contributions from partners and a reduction in their reliance on CECR funding.</p> <p>d. Carry-out a Post Mortem review following the competition for extended time or funding to identify possible improvements in the adjudication process and support documentation, and best practices with regard to self-sustainability and ways to address the commercialisation gap.</p>	<p>NCE-CECR Secretariat</p>	<p>June 2012-2013</p> <p>a. Done documents approved in February and May 2012</p> <p>b. Done Approved February 2012</p> <p>c. Done Approved February 2012</p> <p>d. April 2013</p>

Recommendations	Agree/ Disagree	Proposed Actions	Responsibility	Timelines
<p>Recommendation 3.</p> <p>Recognizing that improvements to the performance reporting template have been made over the CECR program cycle and universally accepted indicators to measure progress of a discovery toward commercialization are limited, the NCE Secretariat should continue to seek improvements to Centres' performance reporting. Three areas are identified:</p> <ul style="list-style-type: none"> a. Definitions of key concepts. b. Review of performance measurement needs. c. Management practice. 	<p>Agree</p>	<p>Review the Performance Measurement Strategy (PMS) and annual reporting instructions and templates to reflect the new focus of the program, with special attention on issues reported in the evaluation report:</p> <ul style="list-style-type: none"> a. Definitions of key concepts: A list of definitions was developed and provided to the centres with the annual reporting instructions to increase consistency. b. A web-based annual reporting system that will facilitate reporting by centres is under development. c. In collaboration with the funding agencies, conduct a review of the program logic model and the PMS Strategy to ensure better demonstration of health, technology and social innovation and socio-economic impacts of products and services commercialised by the centres. Consult with the centres, to identify both common program indicators and a set of indicators unique to each centre. d. Put in place additional steps to ensure a better oversight and review of the annual reports for consistency and accuracy (e.g., stronger engagement of the Board of Directors in monitoring the performance of the centres and approving the annual reports submitted to the Secretariat, and review of draft reports by NCE staff prior to submission and approval by centres' Boards of Directors is implemented this year). Provide specific feed-back to centres. 	<p>NCE-CECR Secretariat</p>	<p>August 2013</p> <ul style="list-style-type: none"> a. Definitions provided to centres in February 2012. b. Web-based system: January 2013 c. Review PMS December 2012 d. Guidance by staff: Spring - 2012. Approval by full Boards : summer 2012