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## CANADIAN BIOTECHNOLOGY ADVISORY COMMITTEE (CBAC)

### Statement on Renewal of the Canadian Biotechnology Strategy And the Evolving Role of CBAC

***The Canadian Biotechnology Advisory Committee (CBAC) strongly advises the Government of Canada to renew and build on the Canadian Biotechnology Strategy established in 1998 and, as part of that renewal and enhancement, continue and reinforce the mandate of and support for CBAC.***

The reason for this advice is simple. There is a continuing need for a strategy that focuses on biotechnology *per se*; that embraces the economic, scientific, ethical, legal, social, regulatory, environmental and health aspects of this transformative technology; and that is linked to the programs and responsibilities of several federal ministries. This need is greater now than ever before. It is worth reiterating briefly the basis for this assertion.

#### The Case for a Renewed Biotechnology Strategy

##### *Why biotechnology per se?*

- Because biotechnology (a body of technical knowledge and a set of powerful tools) is the aspect of the life sciences that is most directly applicable to human and animal health, the environment, food, international trade and the economy.
- Because the vast majority of the economic, social, ethical and legal issues of primary concern to the public and to policy makers related to life sciences involve applications of biotechnology.
- Because biotechnology is an increasingly important engine for economic growth (the global market for biotechnology products is expected to reach \$50 billion in 2005). Our country is well placed to capitalize on its strengths in biotechnology (our revenue-generating performance increased by 83 per cent between 1999 and 2001, reaching \$3.6 billion), *provided* Canada maintains a focused approach to development of this sector.

### ***Why a comprehensive "horizontal" strategy?***

- Because governments are faced with having to deal with issues that cut across departmental lines, sectors, institutions, political jurisdictions, and public constituencies. Governments are also required to reconcile competing interests, multiple streams of advice and diverse calls for government action.

### ***Why now?***

- Because the pace of biotechnological innovation is accelerating. The next decade will see an increasing economic impact from biotechnology and its applications. Just think of what has happened in the few short years since the current strategy was instituted. In that brief interval, we have seen the mapping of the genomes of humans, plants, animals and microbes and the emergence or rapid expansion of new fields of biotechnology (genomics, pharmacogenomics, proteomics, stem cell biology, bioinformatics etc.)
- Because we cannot take our current favourable international standing for granted. Canada ranks second to the U.S. in number of biotechnology firms, third behind the U.S. and U.K. in revenues and first in R&D per employee. However, the competition is intensifying and we must redouble our efforts to keep pace -- to stand still is to lose.

At a time when new biotechnological frontiers have opened up in health, food production, the environment and sustainable industrial development, and when governments around the world are re-energizing their commitment to the use of biotechnology for economic and social objectives through increased investment, ***the question is not whether to renew the CBS, but how to enhance it to make biotechnology work for Canada.***

### **The Elements of a Renewed Canadian Biotechnology Strategy (CBS)**

The current CBS is predicated in large part on the fact that issues related to biotechnology permeate several key departments and programs of government. Its pervasiveness demands cross-departmental ("horizontal") attention to its implications. The importance of this fundamental principle remains paramount. Without clarity of direction and policy coherence, Canada's ability to capture the benefits of biotechnology in a socially responsible fashion will be weakened and it will find itself relegated to a reactive rather than proactive role in policy development.

### ***What modifications should be made to the Canadian Biotechnology Strategy?***

- The three pillars of the current CBS are: ***innovation, stewardship and citizen engagement.*** This conceptual base remains valid as far as it goes, but should be reformulated and enhanced. Innovation and stewardship determine how biotechnology is developed and used in our society and are the main foci of government policy. By contrast, citizen engagement is a facilitatory process; i.e., it is the means by which the views and interests of the public can inform policy development and strategies related to innovation and stewardship.
- It should be noted that citizen engagement is not the only modality for facilitating policy-making and strategic action. ***The multi-dimensional nature of the objectives of a national biotechnology strategy should be more fully expressed in a renewed***

**Canadian Biotechnology Strategy.** The following framework illustrates the multi-dimensionality of the strategic challenges. It consists of:

- Key strategic themes:
  - Innovation
    - Scientific, technical and social innovation
    - New products, processes, practices and organizational features
  - Stewardship
    - Conservation and protection
    - Nurturing human, social and economic capital
- Facilitators and enablers
  - Citizen engagement
  - Capacity development
  - Collaboration (inter-departmental; inter-sectoral; inter-jurisdictional)
  - Education
  - Decision support mechanisms
- Elements of the technology "life-cycle"
  - Research and development
  - Regulation and commercialization
  - Technology assessment
  - Technology diffusion and uptake
- The core value dimension

### **Supporting a Renewed Canadian Biotechnology Strategy: The Canadian Biotechnology Secretariat and the Canadian Biotechnology Advisory Committee**

The current CBS is supported by a secretariat (the "CBSec"). The CBSec supports a variety of interdepartmental activities related to biotechnology and provides the staffing and operating support required by CBAC. It is obvious that any renewed strategy will require a resource such as the CBSec. While a good deal of important and useful work has been undertaken, the overall level of support is inadequate to allow the CBSec to be as useful as it could be. The matter of support for CBAC is touched on below.

#### ***The evolving role of CBAC***

CBAC was established in 1998 as a core component of the CBS with a mandate to provide comprehensive advice on current policy issues associated with biotechnology. It is also tasked with providing Canadians with easy-to-understand information on biotechnology issues, and providing opportunities for Canadians to voice their views on the matters on which CBAC is offering advice to the Government. The importance of external advice to the government is even more compelling now than when CBAC was first established. One thing is clear – independence is critical to the credibility of our advice and to the value-added we bring as an advisory body to government. The issues that biotechnology raises are becoming more complex and require many perspectives and greater depth of analysis.

***The totality of its mandate, structure and constellation of functions and activities make CBAC unique among advisory bodies both in Canada and abroad.*** It is a body of experts drawn from diverse fields; it is supported by government, yet operates independently and

reports publicly; it acts as a convenor of the many groups with a stake in biotechnology and facilitates productive dialogue among them; it acts as a medium of linkage and exchange between experts in the government and those in the private sector and/or in public institutions outside of government; it is free to pursue any topic it deems to be appropriate and important while also responding to requests for advice on special topics by government; and its mandate is long enough to allow it not only to address current topics but also to maintain a watching brief over emerging trends.

The role of CBAC has evolved in the five years since its inception. Early in our mandate, the focus was on the adequacy of existing policy, instruments and operations (e.g., regulatory systems, patent policy) to deal effectively with biotechnology developments. Latterly we have also turned our attention to the broader impacts of biotechnology on complex and dynamic systems under the rubric *Biotechnology and Canadian Society*. We have completed and are in the process of publishing our study on *Biotechnology and the Health of Canadians* and are about to launch a major study on *Biotechnology, Sustainable Development and Canada's Future Economy*.

We have also developed a suite of products and activities that can be customized to align with the interests and needs of government and with the rapidly changing scientific and social context. The unique nature of CBAC outlined above has proven to be ideal for it to act as a "meta advisory body" (i.e., as a body that synthesizes and reconciles the streams of analysis and advice coming from a variety of other advisory groups in Canada and abroad) and as a body that explores the various perspectives of the Canadian public and diverse stakeholder groups.

Our work on the Regulation of Genetically Modified Food and Feed, for example, was informed by the Royal Society's Expert Panel Report on the scientific aspects of this topic. We related that work to a broader investigation of the social, ethical and economic issues involved and their policy implications -- an investigation that involved broad public and stakeholder consultations. The latter activities resulted in the "spin-off" of a process that led to the creation of a "dialogue tool" for facilitating debate on controversial topics. One can readily envision CBAC exercising its meta-advisory role in relation to the assessments that might be undertaken, at the request of the government, by the nascent Canadian Academies of Sciences.

### ***What needs to change?***

It is clearly reasonable to contend that, with respect to CBAC and the CBSec, "the proof of principle" has been demonstrated. However, ***steps need to be taken along two fronts in order to have these entities reach their full potential; namely, enhanced resources and more effective reporting relationships***. Our comments relate primarily to CBAC, since the assessment of CBSec and its future needs in relation to its inter-departmental coordination role are properly the purview of the ministries involved.

### ***Resources***

There are two aspects to the need for enhanced resources. First, citizen engagement broadly defined is costly. The current resources available to CBAC are insufficient to support citizen engagement activities that have both the reach and continuity required for optimum impact in respect of providing Canadians with the information and resources they need to make informed decisions. Second, the accelerating pace of developments in biotechnology about which policy makers require advice warrants an increase in CBAC's resources so that we can expand the range and scale of projects we undertake.

### ***Reporting Relationships***

Ministers need to collectively consider Canada's biotechnology policy and its impact in achieving national objectives. The technology and its implications for Canada are simply too important to leave to individual departments to deal with in an ad hoc manner. Because biotechnology is not the purview of one Minister, but rather requires the collective consideration of many, we strongly urge the introduction of a revised reporting mechanism that would have CBAC report formally and regularly to a cabinet committee. The new Cabinet Committee on the Environment and Sustainable Economy could provide the appropriate forum for receiving and discussing collectively CBAC's advice, thus facilitating the over-arching policy integration necessary for a complex horizontal file. CBAC's activities would continue to involve regular and frequent engagement with individual Ministers, or sub-groups of Ministers, and their respective staffs on specific issues.

### **Looking forward**

The dynamic nature of biotechnology and its use in our society requires a dynamic biotechnology strategy – nimble enough to take advantage of new opportunities and forward-looking enough to anticipate new challenges and adjust accordingly. CBAC is well positioned to undertake the ongoing review and wide-ranging consultations necessary to ensure that Canada's biotechnology strategy remains current and relevant in a fast-paced international arena.

### **Canadian Biotechnology Advisory Committee Membership**

[http://cbac-cccb.ca/epic/internet/incbac-cccb.nsf/en/h\\_ah00012e.html](http://cbac-cccb.ca/epic/internet/incbac-cccb.nsf/en/h_ah00012e.html)