

OPINION

Renewing the social contract for science and innovation

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A new social contract can reinvigorate the support for science and innovation, deliver more closely what Canadians want, and ensure science and innovation are at the heart of our efforts to confront climate change and other challenges while capitalizing on emerging opportunities.



Science and society are moving toward a clash of values, one that threatens to tear the fabric of the post-war social contract. Renewing—or renegotiating—that contract is essential if we are to rebuild trust in a way that ensures the world continues to benefit from science and innovation. *Photograph courtesy of Pixabay*

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Federal elections are often about the economy, health care, or the environment. In the mostly content-free campaign Canadians just experienced, climate change was arguably the dominant issue. Flying below the radar, impacting each of these issues, are science and innovation. Yet they were largely absent from the national discussion.

Science is crucial for providing the evidence and ideas necessary to drive economic progress, improve health, and preserve our environment. That we live better and longer—25 years longer than nearly a hundred years ago, in fact—is largely because of science. It also informs our understanding of the world and our place in it. The scientific enterprise is one of humanity’s most successful creations, and the system we’ve built has served us well.

The foundations for today’s science system were laid in the early post-war period in the form of an unwritten social contract between society and science. Society, through government, would provide public funds and a high degree of autonomy to the scientific community in return for the considerable but unpredictable benefits that science can provide to society.

But there are worrying signs that this system is under strain. A recent international survey (https://www.3m.com/3M/en_US/state-of-science-index-survey/) found skepticism and distrust in science on the rise in Canada and abroad. The public struggles to keep pace with the accelerating, disruptive impacts of new innovations. Media reports raise concerns about research integrity, accountability and the scientific community’s ability to police itself. Climate change denial, not to mention growing anti-vaccination sentiment and fears of genetically-modified foods, are all signs of a public that is unsure about the value and authority of science in their lives.

For their part, scientists have become frustrated by what they perceive as insufficient funding, short-term thinking and politically-motivated restrictions on inquiry and dialogue. They see their credibility and independence undermined by populism, ideology, and rhetoric.

Science and society are moving toward a clash of values, one that threatens to tear the fabric of the post-war social contract. Renewing—or renegotiating—that contract is essential if we are to rebuild trust in a way that ensures the world continues to benefit from science and innovation.

It won't be easy.

First, science is expensive. Canada spends about \$12-billion annually on research (approximately \$325 per year for every Canadian).

Second, there is a growing disconnect between what the public increasingly sees as unapproachable, confusing or elitist institutions that insist on tenure, peer review, “fundamental research,” and what scientists see as a lack of public appreciation for the value of their work.

Third, demonstrating a return on scientific investment is not easy. The scientific enterprise isn't designed for short-term value creation. It is designed to generate knowledge. There are certainly spin-offs and innovations realized along the way. And science is also about training the future generations of critical thinkers and innovators. But there is no direct line between investing in science and short-term economic gains.

If this social contract breaks down, what then? Scientists become one voice among many, one that is no longer trusted to solve the important problems or generate the innovations required to deal with climate change, opioid addiction and other grand challenges. And the public benefits diminish as investment shrinks with less information to guide decisions, slower technology development and fewer young trainees with bright new ideas.

We believe strongly in the need to renew the social contract between scientists and society.

Renegotiating the contract won't be a simple task. It will require an honest reflection about the role science *can* and *should* play in managing climate change while also growing the economy. The government will need to make tough choices about funding. It will have to consider how science is governed, and make a deep commitment to upholding values of public trust, transparency, responsible research, and inclusive innovation.

This hard work will pay off because a new social contract can reinvigorate the support for science and innovation, deliver more closely what Canadians want, and ensure science and innovation are at the heart of our efforts to confront climate change and other challenges while capitalizing on emerging opportunities.

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