

Development of a **National Standards Strategy**



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About the Standards Council of Canada

Since 1970, the Standards Council of Canada (SCC) has helped make life safer, healthier, more prosperous and sustainable for people, communities and businesses in Canada through the power of standardization. SCC works with a vast network of partners nationally and around the world, acting as Canada's voice on standards and accreditation on the international stage, including as a member of the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC). As the country's leading accreditation organization, SCC creates market confidence at home and abroad by ensuring conformity assessment bodies meet the highest expectations. In all these ways, SCC opens a world of possibilities.

For more information, visit <https://www.scc.ca>

List of key acronyms

CANC/IEC Canadian National Committee of the International Electrotechnical Commission

DEI Diversity, Equity and Inclusion

ESG Environmental, Social and Corporate Governance

IEC International Electrotechnical Commission

IPCC Intergovernmental Panel on Climate Change

ISO International Organization for Standardization

NSC National Standard of Canada

NSS National Standards Strategy

OECD Organisation for Economic Co-operation and Development

PTAC Provincial-Territorial Advisory Committee

SCC Standards Council of Canada

SCCA *Standards Council of Canada Act*

SDO Standards Development Organization

SDOAC Standards Development Organizations Advisory Committee

UN SDGs United Nations Sustainable Development Goals

UNDRIP United Nations Declaration on the Rights of Indigenous Peoples

WTO World Trade Organization

Message from the CEO and the Acting Chair of Council

As the custodian of the national standards system, the Standards Council of Canada (SCC) recognizes the value of consensus and collaboration. We are honoured to have had the opportunity to engage with our colleagues and committed stakeholders to develop a robust and thoughtful standards strategy, which identifies where standardization can deliver the greatest benefits for our country.

This National Standards Strategy (NSS) is a revision of the first strategy that was developed in 2000. Hundreds of stakeholders and interested parties were consulted on this strategy and its previous iterations. We would like to thank everyone involved for their insights, their direction and the commitment that went into developing a national standards strategy that will benefit Canadians. We are proud to have a new system strategy reflective of many diverse voices and views.

This document is a comprehensive strategy that explores new thinking and new priorities and engages with new stakeholders. It considers the current geopolitical environment, national concerns and critical issues that will have far-reaching consequences if they are not addressed. This document will now provide a strategic way forward and help bring focus in the continued collaboration and development of standards and resulting conformity assessment schemes and initiatives for the entire system, a system that is dedicated to advancing the goals of standardization.

Thank you to SCC staff who dedicated their time to this important work during a period in the world when there are many competing priorities, voices to be heard and decisions to be made. We will use this now as a framework that will be reflected in SCC's corporate plan and in the excellent work of all our stakeholders.

The strategic and tactical initiatives contained within this framework were developed to be referenced by diverse interests, to meet their own national and individual organizational objectives. The strategy has been developed through the coordinated efforts of a large and diverse group of constituents representing stakeholders in industry, standards developing organizations, consortia, consumer groups, government and academia. Throughout each consultation, participants expressed a commitment to developing the NSS in a way that was open, balanced and transparent.

The result is a document that represents the vision of a broad cross-section of standards stakeholders, reflecting the diversity of the Canadian standards system.

We are pleased to bring you this document that serves as a consensus-built review and path forward.

Thank you for your contributions,



Chantal Guay, ing., P.Eng., FCAE, ICD.D
Chief Executive Officer



Colin Clark, P.Eng., FEIC
Acting Chair

1. Context



1.1

The National Standards Strategy

Time to renew

This National Standards Strategy (NSS) has been developed to make sure that Canada’s national standards system is well positioned to support Canadians’ values, aspirations, interests and emerging needs. It identifies the priorities and sectors the Canadian standards system should focus on over the next decade.

It is important to emphasize that this is a strategy for the system. The standardization system encompasses a vast network of partners, stakeholders and experts that contribute to standards development, conformity assessment and accreditation. While the Standards Council of Canada (SCC) has worked with its standardization partners and stakeholders to develop this NSS, and SCC will play an important supporting role going forward, it is a strategy for the system as a whole.

Past strategies

The development of the NSS is not the first national level standards strategy. In 2000, the Canadian Standards Strategy was released. It was subsequently updated for 2005–2008 and then again for 2009–2012. That strategy contained four goals and 13 objectives which set out outcomes necessary to achieving the overall goals. Key themes that were carried over to the 2009 strategy included:

- Promoting trade/access to markets for Canadian goods and services.
- Enhancing the understanding of standardization and the standards system.
- Applying standards solutions in support of national priorities and policies.

For this NSS, we have attempted to broaden the tent of the system, those we engage, and the ambition of the strategy itself is to be more inclusive, move forward with greater agility, and demonstrate the value of standards to Canadians. At the same time, the NSS provides an opportunity to align with strategic standards initiatives taking place at the global level, such as the ISO Strategy 2030.

Figure 1: Who’s who in Canada’s standardization system



1.2

Canada's standards system in context

Standards and the standards setting process

Standards can be found almost everywhere in our society, across products, services, activities and sectors – from making a product, to managing a process, to delivering a service or supplying materials. We find them at work in our light sockets, our children's toys, the energy we consume and in myriad other ways as we go about our daily lives.

WHAT ARE STANDARDS?

A standard is a document developed by a committee or group of stakeholders and approved by a recognized body that provides rules, guidelines, characteristics or requirements for products, processes, or services. Standards can be voluntary or mandatory as a result of being referenced in legal instruments, and sub-national, national, or international. Types of standards include performance standards, prescriptive standards, design standards, management system standards and service standards. They are different from Acts and regulations, although standards are often referenced in those legal instruments.

The development and use of both national and international standards promote a country's competitiveness and well-being, by advancing the national economy, supporting sustainable development, benefiting the health, safety and welfare of workers and the public, assisting and protecting consumers and facilitating trade and international cooperation.¹

BENEFITS OF STANDARDS

Standards benefit various groups of society including consumers, civil society groups, businesses and governments at all levels. For consumers and civil society groups, standards help provide safer products and services, enhanced purchasing power, simplicity and compatibility of components purchased and improved social and economic well-being.

While standards keep the consumers safe, increase their purchasing confidence and improve quality of life, standards also benefit businesses and the economy, by helping to foster innovation and provide companies with a competitive advantage. Standards on social and environmental practices also reassure communities where large investments are being considered by businesses.

When standards differ between jurisdictions, they can be a barrier to trade. When they are aligned, they can help facilitate trade. They can also save time and money, while managing business risk. Standards also help governments oversee a regulatory environment that encourages competitiveness of businesses while ensuring the safety of consumers. Regulators contribute to a reliable and credible standards development process and help satisfy trade and safety requirements by referencing standards in their regulations. By referencing standards in legislation and requiring compliance with those standards, governments can save time and costs in drafting regulations and codes. Built-in review cycles make sure that standards remain relevant and adapt to the constantly changing world and environment.

All these dynamics help make standards a catalyst for attracting investment, driving innovation and economic growth.

¹ Standards Council of Canada Act. *Statutes of Canada*, c. S-16, Canada. Department of Justice. 1985.

Increasingly, standards are also developed to address broader societal issues including diversity, equity and inclusion (DEI), privacy, an ageing society, environment (e.g., waste management, climate change, flooding), consumer health and safety (e.g., secondhand goods, fire incidents), education and public well-being.

Standards are useful in tackling all kinds of issues because they provide a structured, relatively neutral process that brings disparate parties together to achieve consensus. As such, they can also provide a voice to people beyond those in government and the private sector to ensure that all perspectives are heard and actively engaged in setting a standard.

THE STANDARDS SETTING PROCESS

Standards are developed through a process of consensus and review by stakeholders from industry, governments, academia and the public. Such processes begin by identifying needs for a given sector that are then planned for by the relevant organization and committees. For purposes of illustration, the figure below shows the standard development process for a National Standard of Canada. This is just one example. Over the course of our mandate, the system has developed a series of flexible and agile processes for standards activities.

Figure 2: Standards setting process for a National Standard of Canada



In addition to NSCs, the standards system produces other standards solutions, including technical specifications, other recognized documents, publicly available specifications, workshop agreements and community-sourced guidance.

How Canada's National Standards System is organized

THE NATIONAL STANDARDS SYSTEM

The national standards system encompasses a vast network of partners, stakeholders and experts that contribute to standards development, conformity assessment and accreditation. Through the collaborative effort of the system's stakeholders, standards help advance the social and economic well-being of the country and safeguard the health and safety of Canadians. The development and use of standards often involve governments at all levels, that by developing and/or incorporating them in their legislation, also promote the use of standards.

In practice, the boundaries of the system are unclear and hard to define. Stakeholders beyond those described above in Figure 1 develop, implement and monitor voluntary standards all the time. For instance, the financial sector has standards that are not under the umbrella of the standards system. Industry consortia also sometimes pool their resources to develop standards independently of the national standards system to solve business or industrial scale problems. Such standards may not have the benefit of active and meaningful input from stakeholders such as users or consumer protection groups.

This creates a challenge – if there is to be a single standard or a set of standards in a domain, how do we know who is developing them and which standards should be accepted? When two or more organizations are involved in standards development

without appropriate coordination, there is no longer a single standard. Different standards get completed, and different standards development organizations (SDOs) can be unaware of one another's activities. Duplication and inefficiency results for citizens, businesses and government. Standards development requires coordination to establish a single, clear standard and avoid duplication in a domain.

Historically, Canada's national standards system has been focused on industrial and technical standards. More recently, its focus – as well as those of other organizations that develop, implement and monitor standards – has broadened to include many other types of standards in the environmental, health and social and service sectors, among others. The focus has broadened because stakeholders and Canadians generally have recognized that standards are incredibly valuable in tackling very complex issues, not least because they are underpinned by principles – such as balanced representation, public consultation, accountability through conformity assessment and consensus – that support widely implementable solutions.

This broadened focus has also meant ensuring easier access to standards with a greater degree of social relevance, more flexibility in how system participants contribute and new standards-based documents for users, to make sure that the system is delivering on their needs.

Recognizing that broadening, reaching out to the many organizations involved and including them in the system is an important motivation and focus for the NSS going forward.

SCC AND ITS MANDATE

As noted above, SCC has worked with its standardization partners and stakeholders to develop this NSS and will play an important supporting role in the future. This is in keeping with SCC's mandate defined in the *Standards Council of Canada Act* (SCCA) as follows:

- 4 (1) The mandate of the Council is to promote efficient and effective voluntary standardization in Canada, where standardization is not expressly provided for by law and, in particular, to
- (a) promote the participation of Canadians in voluntary standards activities,
 - (b) promote public-private sector cooperation in relation to voluntary standardization in Canada,
 - (c) coordinate and oversee the efforts of the persons and organizations involved in the National Standards System,
 - (d) foster quality, performance and technological innovation in Canadian goods and services through standards-related activities, and
 - (e) develop standards-related strategies and long-term objectives,

in order to advance the national economy, support sustainable development, benefit the health, safety and welfare of workers and the public, assist and protect consumers, facilitate domestic and international trade and further international cooperation in relation to standardization.²

SCC'S INTERNATIONAL ROLE

SCC is responsible not only for leading Canada's delivery on domestic standardization priorities, but also internationally. Through the SCCA, SCC is also responsible for:

- Representing Canada and ensuring effective participation as the Canadian member of the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC) and any other similar international organization.
- Promoting arrangements with organizations similarly engaged in standards development and conformity assessment in other countries for exchange of information and for cooperation in these activities.
- Providing advice and assistance to the Government of Canada in the negotiation of standards-related aspects of international trade agreements.

To fulfil its obligations under the SCCA, SCC has historically linked its work to:

- The priorities of the government of Canada to make sure capacity development activities are well targeted in areas of focus.
- Canada's trade objectives.
- Industry's needs, through links with the Canadian National Committee of the International Electrotechnical Commission (CANC/IEC) and industry representatives on mirror committees.

In delivering this mandate, Canada currently participates and holds leadership roles through SCC on 204 ISO and IEC technical committees, including serving as the International Chair, Secretary and Convenor.³ Additionally, SCC works with over 12 other regional and international standardization organizations and holds cooperation agreements with Bolivia, Brazil, Costa Rica, Europe, Mexico, Peru, South Korea, Ukraine, the United Kingdom and the United States.

² Standards Council of Canada Act. *Statutes of Canada*, c. S-16, Canada. Department of Justice. 1985. *Department of Justice*.

³ *Ibid.*

1.3

Global and national trends in standards setting

To inform the development of the NSS, SCC sought opinions of key informants and through research identified a series of key global and Canadian trends that are relevant to Canada’s standards system. These represent both long-standing as well as new trends arising from global developments.

Global trends

Key global trends identified are summarized below.

Table 1: Global standards system trends

GLOBAL TREND	KEY FEATURES
The rise of the United Nations Sustainable Development Goals (UN SDGs) in driving the agenda for standards development	<ul style="list-style-type: none">• The UN SDGs are a major driver of standards setting agendas around the world. They consist of 17 goals for 2030 that cover numerous areas, stretching from many areas traditional to standards setting to others that are less well explored.• The importance of the SDGs and the role standards can play in supporting their achievement has been recognized by ISO. The United Nations Economic Commission for Europe (UNECE) has identified over 15,100 ISO standards and over 4,300 IEC standards relevant to the 17 SDGs.⁴ These can be used to support governments, industry and consumers in contributing to the achievement of each goal.⁵ Canadian SDOs have also undertaken similar research demonstrating the contributions their standards bring to the SDGs.
The urgency of responding to climate change	<ul style="list-style-type: none">• As the 2022 Intergovernmental Panel on Climate Change report describes, “Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a livable and sustainable future for all.”⁶

4 United Nations Economic Commission for Europe (2022). Standards. [online: web] URL: <https://standards4sdgs.unece.org/standards>.
5 ISO (2018). Contributing to the UN Sustainable Development Goals with ISO Standards. Geneva: ISO. [online: web] URL: <https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100429.pdf>.
6 IPCC (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability. Summary for Policymakers. [online: web] URL: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf, p. 35.

GLOBAL TREND	KEY FEATURES
<p>The impact of the COVID-19 pandemic and the need to sustain recovery from it</p>	<ul style="list-style-type: none"> • The pandemic has highlighted the need for agility and speed in developing and implementing standards. • According to the World Trade Organization, two-thirds of notifications by its members in response to COVID-19 are related to standards and regulations affecting trade in personal protective equipment, food, live animals and medical equipment.⁷ • At the same time, the pandemic has placed an emphasis on ensuring whole supply chains function effectively and efficiently, which requires thinking about large sets of standards, rather than individual ones in isolation. • The pandemic has changed the process by which standards are developed, in particular by forcing standard development processes to occur remotely – this has had positive impacts (reducing travel and greenhouse gas emissions and expense burdens for participants) and negative impacts (making it more difficult to forge consensus in meetings, as the benefits of informal in-person discussions are lost).
<p>The proliferation of different solutions outside the traditional standards system addressing emerging issues, including environmental, social and corporate governance (ESG) issues</p>	<ul style="list-style-type: none"> • Given the wide-ranging nature of ESG issues, new standards are being developed by a range of domestic and international organizations that have not been historically connected to the standards system.
<p>The need for standards in the health and social sectors</p>	<ul style="list-style-type: none"> • While certain aspects of the health and social sector standards setting (e.g., hospitals and health data standards) are well developed, many others are relatively underdeveloped (e.g., community and long-term care) and require increasing focus so that patient data can be shared more seamlessly and securely among health providers when and where the patient is seeking care (virtually, at home, or in a healthcare facility). • Increasing benefits to healthcare services from the use of advanced new areas standardization such as AI, population health management, the Internet of Things (IoT), genomics, personalized medicine and digital therapeutics to further address health inequity and increase Canadians' longevity and quality of life.
<p>Ongoing work associated with trade agreements</p>	<ul style="list-style-type: none"> • Standardization-related obligations embedded in multilateral trade organizations and agreements continue to drive substantial standardization work. • This is the “business as usual” work of standards setting systems and existing international forums.
<p>Supporting key enabling technologies and innovation</p>	<ul style="list-style-type: none"> • Emerging key enabling technologies such as telecommunications standards (e.g., 5G, 6G), artificial intelligence, cybersecurity, quantum computing, the IoT, biotechnology, advanced manufacturing and smart cities are impacting people, communities, industries and governments of all kinds.

⁷ World Trade Organization (2020). WTO report looks at standards and regulations notified by members in COVID-19 response. Geneva: WTO [online: web] URL: https://www.wto.org/english/news_e/news20_e/covid_20may20_e.htm.

GLOBAL TREND	KEY FEATURES
<p>Our changing geopolitical context</p>	<ul style="list-style-type: none"> • Canada is operating in a changing and increasingly challenging geopolitical environment. Both the international and Canadian standardization systems, being integrally linked, are not immune to the actions and interests of global state actors. Some of these actors may seek to exercise significant influence on the governance and values of standardization systems to promote and protect their own interests, which are not necessarily compatible with Canada's objectives. The state actors may attempt to do so to achieve outcomes that depart from core principles of standardization, such as transparency, consensus and balanced interests. • Like other countries, Canada has key areas of national and economic interest. Standards and conformity assessment play an essential role in establishing technology norms and can facilitate or inhibit trade flows depending on how they are used. It is essential that Canadians monitor and exercise influence within both our national and the international standardization systems to preserve the values inherent in standardization and protect and advance Canadian national and economic interests. SCC will continue to work with the Canadian intelligence community, alongside all of our standardization partners and stakeholders, including Canadian technical experts, standards development organizations and Canada's federal and provincial/territorial governments, to raise awareness and increase coordination in response to these recent trends.
<p>Concerns about the capacity of the international standards setting system</p>	<ul style="list-style-type: none"> • Experts are the most valuable resource in standards setting work, and it is important to attract and retain the best experts. • At the same time, many of the people heavily engaged in standards setting are retiring or otherwise withdrawing from work and the associated expertise they carry is at risk of disappearing with them. • There is a need to make sure that standards activities attract new voices and diverse perspectives and to facilitate the transfer of knowledge from seasoned experts to new participants.
<p>Limited awareness of the value of standards</p>	<ul style="list-style-type: none"> • There continues to be limited awareness about the value of standards, their existence and the need for participation in the standards development process from a range of consumer, industry and government stakeholders, as well as academia, end users and others. • Canadian stakeholders are not aware of or do not have the capacity to adopt international standards that could provide valuable solutions, leading to a disconnect between national and international standards work. • This lack of awareness is one barrier to engaging small and medium-sized enterprises (SMEs) in domestic and international standards system, along with the limited capacity such organizations have to engage with the system.

National trends

Canada is affected by the global trends outlined above. In addition to these, the following table summarizes the trends in Canada’s national standards system.

Table 2: Canadian standards system trends

CANADIAN TREND	KEY FEATURES
The race to net-zero, emissions reduction, climate change mitigation and the need for resilient northern infrastructure	<ul style="list-style-type: none"> • In keeping with the UN SDGs and Paris Agreement, much of Canada’s domestic attention from a standards setting perspective will need to be devoted to developing standards for climate change mitigation and resiliency. • Canada is also committed to achieving net-zero emissions by 2050 through the <i>Canadian Net-Zero Emissions Accountability Act</i>.⁸ • The clock is ticking and Canada has just introduced the 2030 Emissions Reduction Plan, which provides a roadmap for achieving 40–45% emissions reductions below 2005 levels by 2030 – just 8 years from now.⁹ • The need to develop standards that support northern infrastructure in the face of climate change as well as northern, First Nations, Inuit and Métis populations is critical and growing; existing national standards are not always suited to northern circumstances.
DEI	<ul style="list-style-type: none"> • DEI priorities have been a major focus of the Canadian government and also a focus of recent standards activities (e.g., The 50 - 30 Challenge, an initiative to improve access for under-represented groups to positions on corporate boards and in senior management).
Indigenous reconciliation	<ul style="list-style-type: none"> • Indigenous Peoples have specific areas of concern with respect to standards, including climate change, infrastructure, water and mental health. • The standards system needs to develop practices to engage Indigenous Peoples in a manner that supports reconciliation and respects their needs and status as rightsholders.
Cannabis	<ul style="list-style-type: none"> • Canada is the first OECD country to legalize cannabis and has emerging standardization needs arising from its regulatory framework. • Canada can also provide expertise to the rest of the world where other jurisdictions take similar steps.

8 Government of Canada (2022). Net-Zero Emissions by 2050. [online: web] URL: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html>.

9 Government of Canada (2022). Canada’s climate plans and targets. [online: web] URL: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview.html>.

CANADIAN TREND	KEY FEATURES
Access to standards	<ul style="list-style-type: none"> • While most standards can be viewed online at no cost, Canada's intellectual property (IP) system operates such that industry and government continue to have to pay to purchase many standards they might be required to comply with, or they might wish to reference in regulation, which is a barrier to standards use.
Funding for standards development	<ul style="list-style-type: none"> • New financial governance mechanisms will be required to support a robust system that can build awareness of the value of standards so they are more widely used.
Concerns about the capacity of the national standards system	<ul style="list-style-type: none"> • Canada has strong technical credibility, market influence through its producers and is seen as a relatively neutral but influential player on the world stage. • However, Canada is a relatively small jurisdiction with a small population, and its federated model tends to disperse technical expertise, which is affected by a broader global trend in which experts are ageing and retiring, reducing the expertise and time of those with it available to the system.



Implications for the National Standards Strategy

Given the above, in the NSS outlined herein, we attempt to build on our strengths, address weaknesses in the national and international systems, and leverage opportunities where standards can create value, particularly for our broadest economic and social goals.

2.

Canada's National Standards Strategy



2.1

The National Standards Strategy on a page

Given the foregoing, we are pleased to present a summary of the NSS below in Figure 3.

Figure 3: The National Standards Strategy



2.2

Our vision, mission and values

Vision

Unlock the full potential of standards to support public policy and deliver benefits for all Canadians.

Standards have tremendous ability – and still much greater potential – to provide principles, processes and clear solutions to society’s most complex problems. The value they create through trustworthy goods, services, public policy and more is enormous. Our vision statement therefore expresses the aspiration that standards will be in much greater use ten years from now and speaks implicitly to individual citizens, consumers, workers, companies, not-for-profit organizations, agencies, boards, commissions, departments and ministries at all levels of government throughout Canada.

While there is work to do, we have also come a long way. In 2000, when the first Canadian Standards Strategy was developed, the system had four accredited SDOs with an agenda that focused mostly on product standards, and a relative lack of options in the system to deliver the best possible solution. Today, Canadian stakeholders have a wider range of solution providers, with 13 SDOs accredited by SCC covering a wide range of product and service areas, including emerging technologies as well as services in the health and community area.

As outlined above, our focus has evolved over the last two decades, but it needs to grow further. Awareness of the system and recognition of how standards can be of benefit across Canada can still be improved. We need to build that awareness by reaching out and bringing new stakeholders, organizations and individuals to be part of the system, while simultaneously strengthening existing relationships.

Mission

Support sustainable development, prosperity, health and safety, competitiveness, trade, and effective public policy for all Canadians. In doing so, the system anticipates the diverse needs of Canadian society, and effectively promotes Canadian interests at the international level.

Our mission reflects what the standards system is in place to do, and reflects the main elements of SCC’s system mandate, including sustainable development.¹⁰ While identifying needs is typically the first step in any standards development process, stakeholder consultations told us that, given the changes occurring in society, the economy, and public policy, it is critical for the system to *anticipate* standardization needs, rather than only react to them.

¹⁰ “Sustainable development” here comes from the *Standards Council of Canada Act*, but also references climate change and other issues as defined in the Brundtland Report; see Report of the World Commission on Environment and Development (1987). Our Common Future. [online: web] URL: <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

The system must also deliver on the standards themselves, along with the accompanying mechanisms – e.g., governance, monitoring, conformity assessment and others – that promote their widespread use.

It is also important that, given the widespread nature of standards and their users, that the system builds awareness so that standards and their benefits are known and embraced throughout our society, economy and public policy. We need to demonstrate to Canadians the value that standards deliver to them personally, and then make them easy to find and use.

Values

Transparency

Coordination

Openness

Agility

Impartiality and consensus

Diversity, equity and inclusion

Effectiveness and relevance

Coherence

Development dimension

While standards activities are often thought of as a largely technical exercise, values are important to both standardization processes themselves, the countries that engage in them and creating trust in standards solutions. The values therefore reflect the principles for guiding World Trade Organization members in the development of international standards: transparency, openness, impartiality and consensus, effectiveness and relevance, coherence and the development dimension of standards with respect to developing countries¹¹, alongside the following values expressed by stakeholders in Canada during our consultations:

- **Coordination** – Given Canada’s federated system and the many stakeholders involved, it is critical that Canada’s system be coordinated to produce clear standards, and avoid the confusion, waste and regulatory burdens that can often accompany conflicting or duplicate standards and their inconsistent use and interpretation.¹²
- **Agility** – Over and over, we heard that Canada’s system needs to be agile, and that, while consensus building can be a complex process, it is no excuse for not responding to the needs of individuals, public policy and the market.
- **Diversity, equity and inclusion** – This is a Canadian value shared by many – but not all – countries around the world. In standards activities, it speaks not just to who should participate, but also whose needs must be anticipated.

Taken together, they constitute the statement of values for the system as a whole.

¹¹ World Trade Organization (2000). Principles for the Development of International Standards, Guides and Recommendations. Geneva: WTO [online: web] URL: https://www.wto.org/english/tratop_e/tbt_e/principles_standards_tbt_e.htm. Note the “Development Dimension” refers to constraints on developing countries’ ability to participate in standards development, and the need to find “tangible ways” to facilitate developing countries participating in international standards development, through for example capacity building and technical assistance.

¹² This is very similar to the WTO’s principle of Coherence, but has particular meaning and relevance in Canada’s context.

2.3

Our system priorities

As many other national standards strategies do, we have developed two sets of priorities – one set concerned with improving the system itself, and another that tells our stakeholders in more tangible terms where our work will focus in terms of sectors. We start below with our system priorities.

Strengthen diversity, equity, inclusion and participation in the standards system

Our standards system must provide an inclusive environment where all people that live in Canada can participate in the development of standards to support our national well-being and quality of life. To that end, the national standards system will:

- Develop and promote standards to advance systemic changes to promote inclusiveness for all Canadians.
- Make sure that women, equity-deserving groups, visible minorities, 2SLGBTQ+ and/or gender and sexually diverse individuals and people with disabilities are involved in standards setting priorities and needs.

- Develop mechanisms to make sure that equity-deserving groups, visible minorities, 2SLGBTQ+ and/or gender and sexually diverse individuals and people with disabilities are systematically involved in the standards system and standards development process, irrespective of the subject matter.
- Make sure civil society and consumer groups are appropriately represented and engaged.
- Regularly assess and monitor the representation of the above groups in major standards system activities.

DISCUSSION

As the 2021 Speech from the Throne states, “This is the moment to stand up for diversity and inclusion.”¹³ The national standards system has already made progress in this area, most notably in supporting the development of a Publicly Available Specification (PAS) for Canada’s 50 – 30 Challenge.¹⁴

The Government of Canada also has an established commitment to gender equality and has strengthened its gender governance framework by developing institutions, policies, tools and accountability structures that promote gender equality.¹⁵ Preparation of the Federal Budget 2021 was guided by two gender budgeting tools that identify policy gaps and priorities and processes for factoring gender and diversity considerations in decision making.¹⁶ SCC also has a gender strategy to advance gender-responsive standards and gender balance in standards development by SDOs.¹⁷

13 Canada. Governor General (2021). Building a Resilient Economy: A Cleaner & Healthier Future for our Kids. Speech from the Throne to Open the First Session of the Forty-fourth Parliament of Canada. 23 November 2021. [online: web] URL: https://www.canada.ca/content/dam/pco-bcp/images/pm/2021-sft/SFT_2021_EN_WEB.pdf, p. 19.

14 See Diversity Institute (2021). Publicly Available Specification (PAS). August 10, 2021. [online: web] URL: <https://secureservercdn.net/192.169.220.85/b0m.396.myftpupload.com/wp-content/uploads/2021/08/Publicly-Available-Specification-PAS.pdf>. Language used to articulate this Strategic Priority is taken from this document. For more on the 50-30 challenge, see Innovation, Science, and Economic Development Canada (2022). The 50 – 30 Challenge: Your Diversity Advantage. [online: web] URL: <https://www.ic.gc.ca/eic/site/icgc.nsf/eng/07706.html#wb-cont>.

15 Organisation for Economic Co-operation and Development (2018). Gender Equality in Canada: Mainstreaming, Governance and Budgeting Highlights. Paris: OECD [online: web] URL: <https://www.oecd.org/gov/budgeting/Gender-Equality-in-Canada-Highlights.pdf>.

16 Department of Finance Canada (2021). Budget 2021: Annex 4: Gender, Diversity, and Quality of Life Statement. Ottawa: Minister of Finance of Canada. [online: web] URL: <https://www.budget.gc.ca/2021/report-rapport/anx4-en.html>.

17 Standards Council of Canada (2020). Reach and Impact: 2019-2020 Annual Report. [online: web] URL: <https://www.scc.ca/en/about-scc/publications/corporate-documents/annual-reports/reach-and-impact-2019-2020-annual-report>.

Yet there is more to be done, most notably with respect to the core processes that define standards setting activities: defining needs and priorities, encouraging participation in standards development, using data that is more representative of Canada's changing demographics and monitoring both these processes and the use of related standards. This strategic priority was widely endorsed throughout our stakeholder consultations.

Support facilitation of trade in goods and services through harmonized standards solutions

Part of unlocking the full potential of standards is enabling all levels of government in Canada – federal, provincial, territorial and municipal – to harmonize their standards as much as possible, both in terms of Canadian and international standards, so that government can develop better public policy and industry goods and services that consumers can have greater confidence in. To that end, the national standards system will:

- Work to raise the profile of, and educate government stakeholders about, the standards system and its value so that it can better serve public policy makers, legislators and regulators.
- Support common approaches to the incorporation by reference of standards by municipal, provincial, territorial, and federal governments and their partners.
- Incorporate best practices from other jurisdictions to promote the incorporation by reference of standards in legislation.
- Align federal and provincial support to harmonize adoption of standards across Canada (i.e., one standard for the country where applicable and supported by evidence).
- Promote standards and identify opportunities to address barriers to interprovincial and international trade.

DISCUSSION

Harmonized standards for the purpose of commerce have long been a driving motivation of standards activities around the world. Given Canada's dependence on international trade and trade within its borders, standards work supporting the free flow of goods and services will always be important. There continues to be a need for standards work related to:

- Canada's ongoing obligations as results of its World Trade Organization (WTO) membership, including Technical Barriers to Trade (TBT) and obligations to provide notifications of new regulations that might give rise to barriers and to defer to international standards where feasible.
- The alignment of standards within Canada for the Canadian Free Trade Agreement (CFTA) to reduce barriers for companies and consumers.
- A series of TBT provisions in the Canada-US-Mexico Agreement (CUSMA), that went into force on July 1, 2020.
- The Canada-European Union Comprehensive Economic Trade Agreement (CETA) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), both of which provide for a variety of labour and other ESG standards, as well as provisions for inclusive trade to make sure benefits are widely shared in member countries.

As noted earlier, our research and consultations demonstrated that while Canada often has success that “punches above its weight” internationally, Canada often struggles as a federation to harmonize standards and regulations – and even adopt those Canada participated in the development of and promoted internationally – particularly among provinces and territories. The important work of the Provincial-Territorial Advisory Committee (PTAC) in SCC and Regulatory Reconciliation Table needs to continue in as agile a manner as possible, as Canada's municipalities, provinces, territories and the businesses that operate in them all work within a larger regional, North American and global context. This will require ensuring that there is appropriate harmonization that minimizes variation from national and international standards, to minimize costs for consumers, industry and governments.

At the same time, the national standards system needs to make sure that, where the standards it produces are to be incorporated by reference in regulations, legislation, or policies by all relevant levels of government, the standards development processes that developed them are sufficiently inclusive and robust to warrant such action.

Standards system sustainability

This is a strategy for the system. As noted earlier, the system needs to demonstrate its value, build awareness, counter pressures that are reducing the system's capacity to conduct standards activities and establish financial governance mechanisms that permit access to standards while providing a solid foundation for the participants and organizations in the system. To that end, the national standards system will:

- Demonstrate the value of the system by establishing evidence-informed mechanisms to assess the economic and social value of standards, through the development of research partnerships/communities of practice to define and measure systemic changes.
- Seek out and develop new partnerships at a leadership level, including groups representing SMEs, research and technology organizations, research universities and think tanks and consumer and other interest groups.
- Plan for recruitment, retention and succession planning for standards development committee members, including training to make sure they can be leaders in standards activities nationally and internationally.
- Increase and broaden participation in the standards development process by increasing the flexibility of stakeholder participation, recruiting and developing

experts that can address “crosscutting” topics, and developing a framework to share expertise in these areas across SDOs.

- Improve access to modern tools and digital technologies in standards development.
- Promote fair, transparent, and agile processes governing the standards system.
- Support the upkeep of modern and robust policies and processes for SDOs.
- Explore more sustainable financial models for the development of, access to, and adoption of national standards.

DISCUSSION

A sustainable system is one that has the capacity and capabilities to execute on its mission of anticipating standardization needs, delivering on solutions, and making them ubiquitous. To achieve this, it must demonstrate value to its many users and stakeholders.

As such, we require more systematic and robust means of articulating the value that standards bring across our society.¹⁸ This can in turn help us develop relationships that are broader and deeper with organizations that drive innovation – SMEs, research and technology organizations, research universities, think tanks, student and consumer and other interest groups – that can help us anticipate needs, help build awareness and develop a new generation of experts in Canada that can support standards activities.

To make sure we have the capacity we need going forward, we need to undertake systematic recruitment, retention and succession planning to make sure the vast knowledge of today's participants is sustained and passed on to that new generation. COVID-19 has taught us that we can use new tools and bring in new participants in a more cost-effective and efficient manner.

¹⁸ Such efforts have been undertaken in the past, but not as systematically as contemplated in this System Priority. See Conference Board of Canada (2007). Economic Value of Standardization. Report Submitted to the Standards Council of Canada by Joseph Haimowitz and Joanne Warren. [online: web] URL: https://www.scc.ca/en/system/files/publications/2007-10-25_EconomicValueStandardizationCanada_FinalReport-REVISED-web.pdf.

Training and development will also be required to make sure that these participants can become leaders nationally and internationally and can approach standards activities that are “cross-cutting” or encompass entire sections of a supply chain – thinking that COVID-19 has also taught us the importance of.

Finally, the financial governance mechanisms of the national standards system need to be reconsidered. Everyone acknowledges that standards take time and money to develop. Today, fee-based standards reflect how Canada’s IP system works and are essential to the financial sustainability of organizations in the system. If fee-based barriers are to be reduced or eliminated without impinging on the independence of organizations in the system, alternative financial governance mechanisms need to be explored – the money needed for standards activities must come from somewhere. In the meantime, we need to make sure that SDO processes and system governance processes are as agile as they need to be.

Strengthen engagement with Indigenous Peoples

Indigenous Peoples in Canada – consisting of three distinct groups, First Nations, Inuit and Métis – are rights holders, both as individuals and governments.¹⁹ Through its commitment to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and to ongoing reconciliation, Canada is committed to working and building meaningful relationships with Indigenous Peoples as individuals and as self-governing nations. Indigenous Peoples’ needs from a standards perspective must be better understood. As such, the system needs to meaningfully engage with Indigenous Peoples, to both learn from them, as well as support them so they can benefit from, and participate equally in, the system.

To that end, the national standards system will:

- Establish consistent and respectful mechanisms to engage with First Nations, Inuit and Métis Peoples and make sure there is support and equal opportunity for them to fully participate in the processes of the standards system.
- Work with First Nations, Inuit, and Métis Peoples to identify their standards priorities.
- As part of efforts to make sure that the composition of individuals within the standards system reflects Canadian society, identify and implement initiatives to actively invite involvement of First Nations, Inuit and Métis as rightsholders across all areas of the standards system.

Anticipating the needs generally is essential, and it is especially important today that we begin to understand Indigenous Peoples’ needs better. We know, for example, that Indigenous Peoples have particular concerns that bear on standards activities that include climate change, northern infrastructure, data governance, mental health and wellness, business development and SMEs. But we do not yet understand the full scope of their needs and concerns.

To understand those needs, we must establish consistent, consultative and respectful mechanisms to building longstanding relationships that move beyond a project basis. We recognize that this is a significant undertaking. Partnerships with Indigenous Peoples can be guided by UNDRIP and the Truth and Reconciliation Commission’s Calls to Action to identify their needs and goals for standards activities.

¹⁹ See Department of Justice Canada (2018). Principles Respecting the Government of Canada’s Relationship with Indigenous Peoples. Ottawa: Minister of Justice and Attorney General of Canada.

2.4

Our sector priorities

In addition to the System Priorities noted above, we are also proposing five Sector Priorities where we expect standards to meet the needs of Canadians and have wide-ranging effect on our innovation and competitiveness. While work will continue in the sectors that traditionally drive the Canadian economy, these sectors will be particular priorities in the coming years. These are areas where, based on background research and stakeholder consultation, we believe standards activities will help:

- Address emerging needs such as ESG, net zero and climate change, pandemics and other crises.
- Innovation and competitiveness for Canadian industry, and SMEs in particular, by reflecting the modern digital, service and goods composition of Canada's national economy.
- General health and well-being.
- Increased consumer confidence and trust.

Climate change mitigation, adaptation and resilience

In keeping with the UN SDGs and Paris Agreement, much of Canada's domestic attention from a standards setting perspective will need to be devoted to continuing to develop standards with respect to climate change, including reducing carbon emissions as well as capture, mitigation, adaptation and resiliency. As the Speech from the Throne noted, "This is the moment for bolder climate action... [and] growing the economy and protecting the environment go hand in hand."²⁰ Canada is committed to achieving net-zero emissions by 2050 through the *Canadian Net-Zero Emissions Accountability Act*.²¹ The clock is ticking, and Canada has just introduced the 2030 Emissions Reduction Plan, which provides a roadmap for achieving 40-45% emissions reductions below 2005 levels by 2030 – just 8 years from now.²² Progress on these efforts will reflect the efforts of all levels of government.

Standards activities in this area could include but would not be limited to:

- Energy, including nuclear, hydrogen, biofuel and marine energy technologies.
- Building design and construction standards to reduce carbon content, improve thermal performance and adapt to change weather patterns, rising sea levels and weather events that are becoming more extreme.
- Focus on fuel cell, electric vehicle charging and infrastructure standards in providing sufficient capacity to support the growing conversion of fossil-fueled transportation to electrical power.
- Standards that support northern infrastructure in the face of climate change as well as northern, First Nations, Inuit and Métis communities.

20 Canada. Governor General (2021). Building a Resilient Economy: A Cleaner & Healthier Future for our Kids. Speech from the Throne to Open the First Session of the Forty-fourth Parliament of Canada. 23 November 2021. [online: web] URL: https://www.canada.ca/content/dam/pco-bcp/images/pm/2021-sft/SFT_2021_EN_WEB.pdf, p. 14.

21 Government of Canada (2022). Net-Zero Emissions by 2050. [online: web] URL: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html>.

22 Government of Canada (2022). Canada's climate plans and targets. [online: web] URL: <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview.html>.

The clock is ticking, and Canada has just introduced the 2030 Emissions Reduction Plan, which provides a roadmap for substantially reducing emissions just 8 years from now.

Environmental, social and corporate governance

Standards activities associated with climate change mitigation and resilience are critical. The next step is making sure that organizations can effectively act and report on ESG matters more broadly. More than a year ago, SCC identified many gaps in the reporting and disclosure of ESG and sustainability metrics. In particular, corporate ESG reporting suffers from a lack of:

- Harmonization and consensus in proposed ESG frameworks, yielding numerous categorizations and hundreds of potential indicators.
- Guidance on the best ways to transform existing processes and operations to address the indicators of various ESG frameworks.
- Trust and stakeholder confidence in the results from the various frameworks and indices, as companies can rank very differently depending on the criteria used.

Since then, the ESG Strategic Advisory Group has been established at ISO to map existing standards to existing disclosure frameworks, improve stakeholder engagement and define user needs. In parallel to Canada's international efforts, the Canadian Standardization Advisory Committee on ESG and Sustainability is exploring how the standards system can support the evolution of Canada's market infrastructure and the ESG ecosystem.

Having guidance on how to leverage existing international standards, or how to adapt them to conformity assessment, will help create coherence, trust and accountability related to ESG disclosure, as well as align incentives from production processes to capital markets and regulators.

Bringing the full power of standardization in the financial disclosure world will help accelerate ESG solutions for the real economy. Working together and combining our knowledge is the only way we can achieve our collective vision.

Standards activities in this area could include but would not be limited to:

- Development of harmonized standards to support organizations in Canada so they can operationalize, measure and report their ESG performance.
- Identification of best practices on which organizations of all kinds can draw on to advance ESG priorities.

Building the full power of standardization in the financial disclosure world will help accelerate ESG solutions for the real economy.

Working together and combining our knowledge is the only way we can achieve our collective vision.

Health, well-being and safety

Health and well-being have been longstanding priorities of governments in Canada, with 32.7% of the provincial, territorial and local governments spending being in the health sector in 2019.²³ Through the COVID-19 pandemic, spending in many of these areas has increased.

Following from the Speech from the Throne in November 2021, the priority remains getting the pandemic under control. That requires speed to market of approvals and new standards for vaccine development. Additional priorities include accessibility, care in rural communities, long-term care and improving data collection across health systems to inform future decisions and track progress.

The Federal Budget 2021 announced investment in improving standards in long-term care, supportive care and mental health over the next few years. Also included in the budget is a commitment of \$41.3 million over six years (starting 2021-2022) and \$7.7 million in ongoing investment to improve data infrastructure and data collection on supportive care, primary care and pharmaceuticals.

Early learning and childcare are also a recurring priority of the federal government, with the recent budget proposing new investments of up to \$30 billion over 5 years, and \$8.3 billion ongoing. This includes specific reference to Indigenous early learning and childcare. The proposed investments will require collaboration between the federal government and provincial/territorial partners to achieve broad goals related to more affordable, high-quality childcare.

In 2021, two new National Standards of Canada for long-term care were sent out for public consultation – one focused on the delivery of safe, compassionate, evidence-informed care, and the other on health infrastructure and the environmental design of long-term care homes.

Consultations with key informants noted that despite the significant federal and provincial expenditures in the health and social sectors, there are limited standards in place. The potential benefits of increasing the use of standards in these sectors were considered to be significant. Key informants suggested that standardization would not only support the achievement of more consistent pan-Canadian outcomes for the recipients of these services but could facilitate investment in the services. By establishing national standards in these areas, investment (e.g., transfers from the federal government to provinces, agreements with service providers) could be based on the use of and compliance with NSCs.

Beyond the above, there are many other dimensions of health, well-being and safety that need to be considered in setting standards priorities in our modern society, particularly where consumer goods and services, cybersecurity, privacy and data governance of personal information are concerned. Safety – in real life and online – continues to be of great importance in driving standards activities.

23 Statistics Canada (2019). Three-fifths of total federal, provincial, territorial and local spending went to social protection, health care and education in 2019. [Online: Web] URL: <https://www150.statcan.gc.ca/n1/daily-quotidien/201127/dq201127a-eng.htm>.

Digital economy and advanced manufacturing

In the modern economy, there are a series of emerging key enabling technologies such as:

- Telecommunications standards (e.g., 5G, 6G)
- Artificial Intelligence (AI)
- Cybersecurity
- Quantum computing
- Internet of Things
- Biotechnology
- Advanced Manufacturing

These, among others, enable what has broadly been described as Industry 4.0.²⁴ These trends will impact organizations in ways including paperless documentation, real-time equipment control and monitoring (industrial internet of things), smart processes and machine learning, AI, identification of maintenance needs or defects, 3D printing and rapid prototyping, etc.²⁵ This tends to raise the stakes of the importance of the standards for such technologies, not only because the technologies themselves are important, but because they underpin how other industries work and potentially their standards as well. They are also engines of innovation and economic growth and have security and military implications. Many of these advancements heavily influence both goods and services sectors or blur the line between whether a sector is seen as providing goods or services.

Moreover, because of the incredible amount of data produced and needed by these enabling technologies, standards in data governance and data privacy have become paramount. In this digital world, Canadians must be able to trust that their privacy is protected, that their data will not be misused and that companies operating in this space communicate in a simple and

SCC is in the early stages of work to standardize the use of technology in provincial elections to ensure the safety, accuracy and integrity of the democratic process.

straightforward manner with their users. This trust is the foundation on which our digital and data-driven economy will be built. Canada's Digital Charter²⁶ outlines ten principles on which this trust can be built.

We propose that the national standards system focus on the digital economy and advanced manufacturing by:

- Prioritizing building capacity, capability and international influence in related sectors.
- Focus relationship building, partnership and technical committee member recruiting efforts in these sectors.

Supply chain stability

COVID-19 has made us all aware of the fragility of our supply chains of all kinds. This concern emerged frequently in the consultations undertaken along with how standards activities also need to consider standards as part of larger supply chain networks. Getting supply chains back to (a new) normal will take years, and there is much to do.

Given the importance of transportation, logistics, wholesale commerce and retail commerce to our economy and society, this is an area where standards activities should continue to focus by:

- Developing new lenses for standards from an overall supply chain perspective.
- Prioritizing standards that will help support the stability of domestic and international supply chains.

24 Schwab, Klaus. (2015). The Fourth Industrial Revolution: What it Means and How to Respond. *Foreign Affairs*. 12 December 2015. [online: web] URL: <https://www.foreignaffairs.com/articles/2015-12-12/fourth-industrial-revolution>.

25 BDC (n.d.). What is Industry 4.0?. Montreal: BDC [online: web] URL: <https://www.bdc.ca/en/articles-tools/technology/invest-technology/what-is-industry-4>.

26 Ministry of Innovation, Science and Economic Development Canada (2019). Government of Canada creates Advisory Council on Artificial Intelligence. [online: Web] URL: <https://www.canada.ca/en/innovation-science-economic-development/news/2019/05/government-of-canada-creates-advisory-council-on-artificial-intelligence.html>.

3. Performance management framework





The success of the strategy is dependent on the actions taken to implement the strategy and tackle the issues identified. Just as the various stakeholders in the system have come together to develop the strategy, they must also support and implement the strategy in their own work plans and participation in standards development.

SCC is well positioned to provide a transparent platform to monitor the measures and initiatives being undertaken to implement the strategy and to provide an oversight framework which can report on progress towards achievement of the strategy and to propose updates to the strategy to respond to emerging issues.

The identification of the measures undertaken will be crucial to a coordinated and comprehensive implementation of the strategy, knowledge transfer of best practices throughout the system and an agile response to new and emerging issues of strategic importance.

SCC will seek to implement the strategy itself through its own Corporate Plan and encourage its advisory committees such as the Standards Development Organization Advisory Committee (SDOAC) and PTAC to advance the goals (objectives) of the NSS in their work plans. SCC is also preparing an International Standards Development Road Map to reflect its particular role in implementing the strategy at the international level through its membership of ISO and IEC, the two major international SDOs. SCC will also work with partners in government, the private sector and civil society to explore initiatives that will help achieve the aims and objective of the strategy.

4.

Conclusion

The world, Canada and the environment in which our standards system operates are all changing quickly. In recognition of these dynamics, we have put together this strategy as a “north star” for the system. We look forward to engaging with our partners in the system, and most of all Canadians, as we embark on this journey.



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