COMMENTS ON THE FEDERAL SUSTAINABLE DEVELOPMENT STRATEGY FOR CANADA 2016 – 2019

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1. Introduction

The federal government has reviewed and updated its Federal Sustainable Development Strategy (FSDS) for Canada for the 2016 - 2019 period and submitted it for public review and commentary until June 24, 2016. Engineers Canada is pleased to submit our comments and recommendations for due consideration along with the other submissions.

Engineers Canada is the national organization of the provincial and territorial associations that regulate the practice of engineering in Canada and license the country's 290,000 members of the engineering profession.

Engineering is a self-regulated profession. Each of Canada's 12 engineering regulators sets high professional and ethical standards, establishes codes of conduct, and administers regulatory processes and standards of practice to ensure protection of the public. This protects and enhances public health, safety, welfare and the environment for all Canadians. Engineers Canada exists to support the provincial and territorial engineering regulatory bodies. Together, we work to advance the profession in the public interest.

Engineers Canada provides the following general comments on Goal 1: Taking Action on Climate Change, Goal 2.1: Clean Technology Jobs and Innovation and Goal 5: Human Health, Well-being and Quality of Life. Comments on specific targets within these goals and efforts for their achievement are provided in accompanying tables.

2. General Comments and Recommendations

This strategy document is viewed only as a starting point for discussion. It appears that over the years, little progress has been made beyond the policy and strategy concepts. In order to deliver results, this strategy document should place additional focus on specific measurable targets for GHG reductions in various sectors and uptake of clean technologies; otherwise with another change in government, we could end up at this starting point once again in a few years.

Furthermore, the concept of climate resiliency needs to be strengthened and elaborated upon in the strategy. Extreme weather and a changing climate poses one of the greatest threats to sustainability in the coming years and decades. It is not too soon to start incorporating this concept and strategic goal into sustainability planning.

2.1 The FSDS should be five years (2017-2022) instead of three to allow sufficient time for implementation, smart resource allocation and reporting.

Three years is too short to support the regular and enormous effort to update the strategy and include sufficient consultation to make the necessary adjustments to finalize it. It is suggested the strategy be extended to five years to enable the review process, proper planning, and allocation/use of financial and human resources to realize the goals and targets. Much of 2016 is slipping away with the consultation process and finalizing the strategy.

2.2 Annual departmental reporting of progress within three months of the fiscal year end should be instituted beginning after the second year (i.e. March 2018). Develop the metrics and reporting format by the end of the first year(i.e. March 2017).

A format for efficient and effective reporting of progress should be developed in the first year of the next phase of the strategy. There should also be mechanisms developed to deal with non-compliance in reporting.

3. Specific Comments on Goals and Strategies

Comments and suggestions by target number are provided in tabular form in Appendix A to this submission. Engineers Canada would be pleased to engage with federal government officials to answer any questions or further discuss these.

4. Concluding Remarks

Engineers Canada welcomes the opportunity to provide input to the FSDS. Canada's engineers offer unbiased, objective and qualified advice and solutions towards sustainable development and environmental stewardship in Canada and internationally.

Our National Guideline on Sustainable Development and Environmental Stewardship provides professional practice guidance to engineers in their everyday work. This guidance complies with an international standard developed by the World Federation of Engineering Organizations, an international body of national engineering organizations from over 90 countries that collectively serve over 20 million engineers worldwide.

This guidance enables engineers to turn "words into action" and to engage governments at a technical and policy level toward meeting the goals of the FSDS and other initiatives. The engineering profession is prepared to do its part in sustainable development to serve the public interest and contribute to the FSDS in a meaningful way.

Engineers Canada

Feedback on Federal Sustainable Development Strategy

Goals and Targets

June 24, 2016

Goal	Target	Comments
Goal 1: Taking Action on Climate Change	1.1 National Leadership on Climate Change	This section begins by stating national GHG emission reduction targets. Why use this approach again? Several targets have been set over the past 15 years and none have been met and most were abandoned or even cancelled (i.e. Kyoto). Indicators showing Canada's progress toward the use of clean technologies, energy efficiency, infrastructure resilience and scientific research on climate change impacts would likely best show how progress is being realized. The focus areas for suggested strategies are appropriate, however voluntary actions should be refocused to 'Encourage Sustainable Development and Environmental Stewardship' with a focus on key GHG emitting sectors. Implementation strategies aimed at voluntary actions to reduce emissions should be followed by regulation of these after a notice period. GHG emissions and their reduction should be explicitly defined to include not only include CO_2 but also methane and other greenhouse gases. A North American strategy on GHG emission reduction, and exchange of working policies and practices between the NAFTA countries would shorten the time to achieve progress and foster a regional approach. Assistance to developing countries should include a local capacity-building component to achieve local and sustainable competencies among policy- and law-makers as well as

		professionals such as engineers, planners and scientific personnel. Implementation strategies should include capacity-building for professional and technical personnel within national and regional meteorological organizations in developing and medium economies. Canada is a world leader in this area of scientific expertise. In the FSDS, the federal Government should explicitly commit to ratifying the UN Paris Agreement by the end of 2016. There should be a commitment by the end of the first year to agree with stakeholders on the metrics for each target indicator as well as methods to measure and report the metrics.
	1.2 Resilience to Climate Change	Resilience also includes the ability to respond and recover which is not reflected in the implementation strategies. The role and balance of emergency preparedness and response needs more emphasis. Implementation strategies must include not only scientific input, but also engineering considerations to determine technical feasibility and cost-effectiveness. Both are required for well-founded adaptation planning and policy- and decision-making. Proposed strategies are good but they do not focus sufficiently on the prevention of weather-related disasters. The concept of preparing the Armed Forces for weather-related emergencies is excellent (given the lack of preparedness noted during the recent Fort McMurray fire). A survey of residential, commercial and industrial facilities should also be undertaken to identify weaknesses to wind storms, floods, wild fires, etc., followed by suggestions for strengthening the resilience of buildings, facilities and related infrastructure. The action plan to help Canada predict, prepare for and respond to weather-related emergencies should include one to two years

		for implementation during this period of the FSDS. The government should enhance the collection, quality control and analysis of climate and water data through preservation and considered expansion of its own network as well as collaborating with other levels of government and the private sector. This includes expansion of expertise at the federal level to analyze and interpret climate information for national and international purposes. Support the development of provincial and territorial climate data sets and scientifically defensible climate projections for use by many sectors of the economy. These data sets and the knowledge and systems to access and use them should be substantially in place by the end of this phase of the FSDS (assuming it is extended to five years). Fund pilot and demonstration projects in a coordinated strategy to prove the application and transferability of climate resilient solutions.
	1.3 Sustainable Energy	The extraction, transformation and use of energy is the prime contributor to GHG emissions, yet this section is only given minimal coverage. Also, this deals largely with clean technology, akin to the other sectors identified under Goal 2 on Clean Technology, Jobs and Innovation; hence the suggestion to move this target under Goal 2. Moreover, there is no mention of electrification of transportation, modal shifting and the alternative forms of energy available. There is also no mention of regulatory needs for the overall energy sector. Support the development of small-scale nuclear-fueled electrical generators using the CANDU system for base-load use in small- and medium-sized utilities to support renewable

		energy technologies and contribute to the 2030-and-beyond emissions goal. Support research initiatives aimed at developing and improving materials used in energy storage devices and transmission conduits using existing research institutions such as the Canadian Light Source. Sustainable energy initiatives for Canada's North as well as for remote communities to lessen reliance on diesel generators for local power should be a high priority in the strategy for governments over the next five years. The federal government should assume a leadership and coordinating role. Success will reduce costs, GHG emissions and the discharge of pollutants. Voluntary actions over this period should include planning and notification of mandatory actions in the period following this phase of FSDS. Such notice may accelerate actions under a voluntary regime that may enable a mandatory regime to be postponed or cancelled if enough progress is achieved.
	1.4 Reduce Greenhouse Gas Emissions from Federal Government Operations	Leading by example is a worthy initiative but would have little impact on overall national emissions. The suggestion to use federal operations as a 'test-bed' for evaluating emerging clean technologies is novel and merits further attention. This idea should be extended to include proven technologies that are near or at commercialization, especially those from Canadian manufacturers. Collaboration with private sector facility owners should also be encouraged federally and at other levels of government.
	1.5 Real Property Environment Performance	As above, using federal facilities to evaluate concepts to reduce GHG emissions and resilience to climate change is appropriate;

		however there needs to be a strategy to roll out the findings to property beyond the control of federal government. This will likely require financing of demonstration projects with property owners. Leading by example is a good first step but this should be extended to include developing best practices and supporting their application for facilities owned and operated by other levels of government and the private sector. This capacity-building strategy should be well underway by the end of this phase of the FSDS.
Goal 2: Clean Technology, Jobs and Innovation	2.1 Clean Technology and Green Infrastructure	The 'Plan' should be longer than 10 years, especially if it deals with innovation. The 'Clean Innovation Agenda' should also be detailed and include target-specific objectives in order to ensure progress. Funding for innovation needs to be based on past progress and be funded according to proposed goals rather than availability of funds. The Plan should be phased, with opportunities to review and adjust at the end of each phase. Infrastructure investment should also ensure public safety and the quality of life that Canadians enjoy. Support research initiatives aimed at developing and improving materials used in energy storage devices and transmission conduits using existing research institutions such as the Canadian Light Source. The strategy should include a review and, if necessary, adjustment of Canada's system of granting patents to streamline the application and approval process for Canadian-based clean technology development Support regional incubators of clean technology development in Canada beginning with one or two regions to serve as examples to learn the best ways of supporting these

		types of developments. The notion of protection of Canadians should be explicitly defined as public health, safety and quality of life – all principles embedded in the practice of professionals, such as engineers.
Goal 5: Human Health, Well-being and Quality of Life	5.1 Outdoor Air Pollutants	Regulations are mentioned as being part of the strategy but GHGs are not considered outdoor air pollutants. Regulations were however seldom in other goals that were focused on GHGs. However, the target sectors noted for goal 5.1 are very specific and appropriate.
	5.3 On-reserve First Nations Drinking Water and Wastewater Systems	Strategies should include investigating and fostering partnerships between local municipalities and nearby First Nations communities that could potentially be served by them.
	5.4 Drinking Water Quality	Description and strategies are sound. Ensure there is regular review and updating of standards as necessary or as scientific evidence evolves.
	5.5 Environmental Emergencies	Measures to reinforce railway safety should include a prevention component (i.e. a review of the vulnerabilities of railway and adjacent infrastructure to climate change and other threats). This should include condition assessment of the track and supporting structure as well as signals and crossings.
	5.6 Chemicals Management	No comments.

General Comments	What content is missing/what should be added?	A general theme is 'Voluntary Action', 'Collaboration' and 'Partnerships.' This should be covered up front as a generic approach and specific objectives should then be given under the various 'Goals.' The 17 Sustainable Development Goals set out by the United Nations are all-encompassing. Should Canada really try to address all of them? For example, 'No Poverty' and 'Zero Hunger' are not even achievable in Canada, which is viewed as a relatively wealthy country. There is a need to focus on domestic needs given limited financial resources and then convey any findings, know-how and technologies internationally.
	What policy questions should be considered?	How is 'Global Free Trade' or 'Free Trade' in general impeding domestic progress? Can progress on climate change be realized with a weak global economy? How does one prioritize when financial resources are limited? Should the focus be placed on 'Sustainable Development and Environmental Stewardship,' which should also deliver results on GHG reductions and climate adaptations?