

November 21, 2022

Innovation, Science and Economic Development Canada  
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*Via Email* - [spectrumauctions-encheresduspectre@ised-isde.gc.ca](mailto:spectrumauctions-encheresduspectre@ised-isde.gc.ca)

**Re: SPB-005-22 - Consultation on the Spectrum Outlook 2022 to 2026 (Consultation)**

1. CWTA is an industry association that represents companies that provide services and products across the wireless communications sector in Canada, including facilities-based mobile wireless network operators and equipment vendors. Our primary role is to advocate on behalf of the wireless sector and to promote the contributions that the sector makes to Canada, including innovation, economic growth, social well-being, and sustainability. We also facilitate industry initiatives, such as enhancing accessibility, charitable giving, and consumer protection.
2. When spectrum is made available in a timely, fair, and reasonable manner to the services that will make the best use of it, the economic and social impacts are far-reaching. The mobile wireless industry's use of spectrum keeps Canadians connected, informed, and entertained. Canadian businesses and the public sector use mobile wireless services to increase their productivity, deliver innovative services, and to realize their sustainability goals. The mobile wireless industry's use of spectrum also produces significant economic benefits for Canada with billions in GDP contribution each year and supporting hundreds of thousands of jobs across industries.
3. Our industry's ability to continue to enable these social and economic benefits will depend on its ability to meet the increasing demand for wireless services, expand wireless coverage to all Canadians, and realize the full potential of 5G. This requires spectrum management policies that make sufficient spectrum available to mobile wireless service providers and that fuel wireless network investment.
4. CWTA is pleased to respond to this Consultation by providing its comments to the questions referenced below. To the extent that there is any inconsistency between CWTA's submission and that of a CWTA member in this consultation, the submission of such CWTA member shall prevail with respect to its position on the relevant matter.

## Answers to Select Questions

**Q1 – In light of the Government’s proposed policy direction to the Canadian Radio-television and Telecommunications Commission on a renewed approach to telecommunications policy, should the policy objective and enabling guidelines in the 2007 Spectrum Policy Framework for Canada continue to drive ISED’s overall approach to releasing spectrum? Are there other policy considerations that ISED should consider?**

5. The policy objective set forth in the 2007 *Spectrum Policy Framework for Canada* is “[t]o maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource” (Spectrum Policy Objective). This objective, and its enabling guidelines, should continue to serve as the foundation for ISED’s overall approach to releasing spectrum, regardless of whether the proposed policy direction (CRTC Direction) to the Canadian Radio-television and Telecommunications Commission (CRTC) comes into effect or not.
6. The Spectrum Policy Objective and its enabling guidelines are consistent with the policy objectives set out in Section 7 of the *Telecommunications Act* (Section 7 Objectives). The Section 7 Objectives establish that a principal objective of Canadian telecommunications policy is to facilitate the development of a telecommunication system to “enrich and strengthen the social and economic fabric of Canada and its regions.” This is very similar to and consistent with the Spectrum Objective of maximizing the economic and social benefits derived from the use of spectrum.
7. The proposed CRTC Direction will not amend or change these objectives. As it relates to the Section 7 Objectives, if implemented, it will direct the CRTC to consider certain factors when deciding how to best realize the Section 7 Objectives. These factors are specific to the subject matter of the *Telecommunications Act*, which does not include the regulation of radio frequencies.
8. As the Spectrum Objective and Section 7 Objectives are aligned in their focus of maximizing or strengthening the social and economic aspects of Canada and the proposed CRTC Direction does not change such objectives, it should not have any impact on the Spectrum Objective. The Spectrum Objective and its guiding principles should continue to drive ISED’s overall approach to releasing spectrum.

**Q2. Should any of the guiding principles listed in section 4 be removed or modified?**

9. We do not recommend the removal or modification of any of guiding principles listed in section 4 of the Consultation. However, we do have comments regarding the application of some of the guiding principles.
10. With respect to the timing of spectrum releases, we are concerned that Canada has fallen behind many of its peer countries when it comes to the release of key spectrum bands for

wireless communications. Long considered a “4G superpower”<sup>1</sup>, Canada has lagged many of its global peers in 5G network performance due to the unavailability of key spectrum bands.<sup>2</sup>

11. As acknowledged in the Annex to the Consultation, consumer demand for mobile services and advancements in technology, including the new 5G standards, require the allocation of additional spectrum to accommodate capacity needs and to enable new functionality. While harmonizing spectrum use in Canada with international allocations is important, it is equally important that the Department proceeds with such allocations in a timely manner so that Canadians do not have to wait to receive the economic and social benefits that their international peers enjoy.
12. Regarding the recognition of the potential of new and emerging technologies and techniques to optimize spectrum use, caution should be exercised before embracing new technologies or techniques that may not be ready for commercial deployment. Any changes should only be considered when the adoption of these new methods is technically feasible and without adverse impact on the quality of service provided to Canadians. At such time, a standalone proceeding where the implications of any licensing regime changes being considered by ISED can be considered in a comprehensive manner is required.

**Q3. Are there additional considerations other than the ones defined in [section 7](#) to support rural connectivity?**

13. Closing the rural/urban digital divide is an important priority for CWTA members who invest billions each year to expand and enhance their digital infrastructure. The number of rural households that had access to at least 50/10 Mbps internet speeds with unlimited data rose by 46% between 2017 and 2020 (54.4% vs 37.2%).<sup>3</sup> In the same period, rural coverage for 50 Mbps+ download was 74.6% (an increase of 90%) from 2017 coverage of 39.2%.
14. With respect to mobile wireless coverage, as of the end of 2021, 99.4% of homes, businesses and major transportation roads had access to the latest generally deployed mobile wireless technology (LTE), with the CRTC confirming that the industry is on target to reach 100% of the population by 2026.<sup>4</sup>
15. Large investments by facilities-based service providers are also helping bridge the mobile experience gap between rural and urban mobile wireless users. In a recent report, Opensignal found there to be “no statistically significant difference between 5G download speeds experienced in rural Canada and its small and medium urban population centers.”<sup>5</sup>
16. With respect to download speeds, Opensignal found that the overall download speed experienced by Canadian mobile wireless rural users is 16.2% to 27% faster than rural

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<sup>1</sup> Opensignal, [State of Mobile Networks: Canada \(February 2018\)](#)

<sup>2</sup> PwC, [The importance of 5G and the digital economy in Canada](#)

<sup>3</sup> CRTC, [Communications Market Reports](#)

<sup>4</sup> Ibid

<sup>5</sup> Opensignal, [How 5G has helped Canada close the urban-rural gap in the mobile network experience.](#)

users in Australia, Germany, and the U.S., and 2.5 times faster than users in rural Brazil.<sup>6</sup> However, as pointed out by Opensignal, much of the download speed advantage for Canadian rural users can be attributed to Canada's superior 4G networks, while in the case of 5G, "Canadian carriers have been limited by the amount of brand new spectrum that has been usable for 5G."<sup>7</sup> As more 5G spectrum is made available and deployed, the experience of both rural and urban mobile users will further improve.

17. In addition to projects delivered by telecom providers themselves, the telecom sector continues to partner with various levels of government to expand and enhance high-speed internet and mobile wireless services. Recent examples include:
- The Government of Canada, the Government of Quebec and internet service providers (ISPs), Vidéotron, Cogeco, Bell, Xplornet, Sogetel and TELUS, partnered to launch the extensive CanadaQuebec Operation High Speed, to connect nearly 150,000 homes in Quebec to high-speed internet by September 2022;<sup>8</sup>
  - The Government of Canada, the Government of Ontario and ISPs including Bell, Rogers, Bragg Communications (Eastlink) and Xplornet partnered as part of the Ontario government's "Ontario Connects" program to connect every region of Ontario with high-speed internet by 2025;<sup>9</sup>
  - Rogers partnered with Eastern Ontario Regional Network and the government to bring 99% connectivity to Eastern Ontario communities by 2025. The joint public-private sector project required a total investment of \$300M to build the local infrastructure, with Rogers funding half of the investment;<sup>10</sup>
  - SaskTel announced that it would double its investment in its Rural Fibre Initiative, bringing fibre-optic broadband to 24 more rural communities;<sup>11</sup> and
  - NorthwesTel continued to make investments as part of its three-year "Every Community" project in which NorthwesTel has partnered with the CRTC Broadband Fund, a fund financed by the telecom sector, to bring high-speed unlimited internet to every Yukon and Northwest Territory community;<sup>12</sup>
18. In addition to the significant investments in network expansion projects, the Consultation references numerous spectrum-related initiatives undertaken by the ISED to encourage

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<sup>6</sup> Ibid

<sup>7</sup> Ibid

<sup>8</sup> Government of Canada, 2021, "[Unprecedented agreement to connect nearly 150,000 Quebecers to high-speed internet.](#)"

<sup>9</sup> Infrastructure Ontario, "[Ontario Connects](#)"

<sup>10</sup> Rogers, 2021, "[\\$300M Partnership to Expand Wireless Connectivity and Bring Choice to Eastern Ontario.](#)"

<sup>11</sup> Sasktel, 2021, "[Sasktel doubling its investment to bring advanced fibre optic broadband infrastructure to rural communities across Saskatchewan](#)"

<sup>12</sup> NorthwesTel, 2020, "[Every Community Project](#)"

additional wireless coverage in rural and remote areas. Most of these initiatives are less than two years old, while others are still in the consultation process.

19. Given the success that the telecom industry has shown in narrowing the gap between rural and urban wireless coverage and the mobile wireless experience, recently announced expansion projects, the CRTC assessment that the industry is on track to meet the 100% coverage target by 2026, and recent ISED decisions and consultations whose impact is too soon to measure, consideration of additional spectrum-related initiatives for rural coverage is premature. The impact of these developments should be given time to mature before deciding whether additional measures are necessary.
20. With respect to licence fees for rural and remote areas, it is appropriate that fees from these areas be set at a substantial discount to fees for urban areas. Providing service to rural and remote areas is more expensive than areas with greater population density and fees that are too high will negatively impact the business case for service providers to invest in these areas.

**Q5. How can ISED best address environmental impacts in the spectrum management program (see discussion in [section 9](#))?**

21. Climate change is one of the most pressing issues confronting individuals, businesses, and governments around the world. Wireless connectivity enables the use of technologies that can help mitigate environmental concerns through reduction in energy use, reduced greenhouse gas emissions, and improved water conservation practices.
22. Advanced wireless technologies, such as 5G, will also help wireless service providers to operate on a more energy efficient basis. As referenced in the Consultation, CWTA commissioned a report by Accenture which estimates that energy use of a general 5G cell site will be 8-15% of that used by a similar 4G cell site.<sup>13</sup> Overall it is estimated that 5G will support a thousand-fold traffic increase by 2030, while the full network's energy consumption will be half the current levels.<sup>14</sup>
23. To realize these benefits additional spectrum for commercial wireless communications is required. As stated above, Canada has fallen behind many of its global peers in the allocation of new spectrum. Failing to allocate spectrum in a timely manner could negatively impact Canadians' ability to utilize new wireless technologies that could help Canada reach its sustainability goals.

**Q7. Are the policy objectives, guiding principles and general timelines for licence fees outlined in [section 11](#) the right ones, or should they be changed?**

24. We agree that spectrum management policy should align with the overarching spectrum policy objective of maximizing the social and economic benefits of spectrum for Canadians. However, maximizing social and economic benefits extends beyond levying

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<sup>13</sup> Accenture, [Accelerating 5G in Canada: The Role of 5G in the Fight Against Climate Change](#).

<sup>14</sup> Ibid

license fees. Canada's wireless industry already contributes to Canada's economy through billions in GDP contribution and supporting hundreds of thousands of jobs across industry sectors. The wireless industry also supports social well-being through enabling connections between people and through direct financial contributions and other supports to communities and disadvantaged groups.

25. These contributions are enabled by the investments made by facilities-based operators each year in expanding and enhancing their digital infrastructure. In 2021, operators invested almost \$3.5 billion in capital expenditures for wireless networks, with another \$9.5 billion in wireline networks.<sup>15</sup> They also spent approximately \$8.9 billion to acquire new spectrum at the 3500 MHz spectrum auction.
26. This level of investment is higher than the average in other G7 countries and Australia and reflects the higher cost factors that Canadian operators face compared to their international peers.<sup>16</sup> One of these factors is spectrum costs, with Canadian wireless providers paying some of the highest, and in some cases the highest, spectrum fees in the world.<sup>17</sup> These high spectrum costs reduce the capital available for network investments and are ultimately borne by Canadian wireless consumers. These impacts run counter to the Government's stated objectives of expanded network coverage and increased wireless service affordability.
27. Rather than trying to extract the maximum revenue possible from the industry for access to spectrum licenses, ISED should adopt an administrative cost-recovery spectrum fee regime. Such a regime would ensure that ISED's spectrum management costs are covered while facilities-based operators would have more capital available to expand and enhance their wireless networks, which in turn would generate greater economic and social value for Canadians. Reducing the cost of building and operating wireless networks would also have a positive impact on the affordability of wireless services.
28. It is also not necessary to implement fees for auctioned spectrum licences that are renewing following the end of the initial licence term. Significant economic and social value has already been provided by licensees through auction payments as well as the deployment of spectrum which contributes to GDP, creates jobs, and enables the latest technologies that support the economic and social activities of Canadians. It is not necessary to extract further proceeds from the use of this spectrum as it will only further lessen the licensee's capacity to invest in network deployment.

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<sup>15</sup> CRTC, [Communications Market Reports](#)

<sup>16</sup> PwC, [Canada's post COVID-19 recovery: The impact of the telecom sector in 2021 and beyond, 2022](#). In 2021, Canadian operators' capital investment as a percentage of revenue, or capital intensity, was 19% vs 14% for the average of G7 countries (excluding Canada) and Australia. Capital investment per subscriber in Canada in that same period was \$168 vs \$87 for the average of G7 countries (excluding Canada) and Australia.

<sup>17</sup> PwC, [The importance of a healthy telecommunications industry to Canada's high-tech success](#). Compared to their G20 peers, Canadian wireless operators have 2x higher capital expenditures per subscriber, 3x higher spectrum costs, and 80% less scale, meaning the expense of operating wireless networks in Canada is significantly greater than in other countries.

29. The above-recommended steps would help ensure that license fees paid by Canadian wireless operators are brought closer in line with those paid by their international peers and will support the Government's objective of increasing coverage, quality, and affordability of wireless services.

**Q8. What should ISED take into consideration when managing the spectrum over the next five years (see discussion in [section 12](#))? a. Are there any other technology developments or sources of spectrum demand ISED should consider?**

30. CWTA agrees that the demand for commercial mobile wireless services will continue to grow at a fast rate. Since mid-2019, the average monthly mobile phone data usage per subscriber has almost doubled and in the last twelve months alone has increased by 34.3%.<sup>18</sup>
31. While new technology can help facilities-based carriers meet Canadians' demand for wireless services, not all new technologies are cost-efficient to deploy. Nor will carrier investment alone be able to keep pace with the forecasted demand for wireless services. Substantial quantities of additional exclusively licensed spectrum for wireless services must be made available in a timely manner for Canada's facilities-based mobile wireless service providers to keep pace with consumer demand.
32. ISED should also exercise caution when considering requests from relative newcomers, such as vertical industries, for access to spectrum that is being used or is planned to be used by the mobile wireless industry. Commercial mobile operators currently support the needs of vertical sectors, while 5G deployment will enable even greater customization and specialization of wireless service offerings.
33. Setting-aside spectrum for verticals in core mobile bands will negatively impact the commercial operators' ability to keep up with the wider demand for wireless services and may result in reduced coverage and poorer performance. It also risks such spectrum being underused by relatively new use cases.

**- End of Submission-**

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<sup>18</sup> CRTC, [Communication Market Reports](#)