Perspectives on Canadian Broadcasting in New Media

- a compilation of research and stakeholder views -

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Executive summary

In 2007, the Commission launched the New Media Project Initiative to examine the cultural, economic, and technological issues associated with new media broadcasting. New media broadcasting activity on public Internet and mobile platforms is growing rapidly and providing Canadians with new programming experiences. These experiences offer services analogous to television and radio, providing greater consumer control and choice. These platforms and services offer a significant opportunity to contribute meaningfully to the broadcasting policy objectives of the *Broadcasting Act* (the Act).

This document summarizes the new media broadcasting landscape, including the supporting technologies, consumer adoption trends, media consumption patterns, and business models. In addition, new media broadcasting issues identified by some stakeholders are presented. The reported data and identified issues broadly depict the new media broadcasting environment as one of change, challenges and opportunities.

In the past decade since the Commission exempted new media broadcasting undertakings, the landscape has evolved significantly:

- High-speed residential Internet access is now available to 93% of households across the country and has been adopted by more than 60% of Canadian households.

- Consumers have adopted a wide array of Internet-connected and multimedia-capable devices (fixed and mobile) available at steadily declining prices and with functionality and features that continue to increase.

- Canadians are spending more time accessing broadcasting content over the Internet and on mobile devices and are asserting greater control while doing so.

- Technologies that enable the delivery of high-quality broadcasting content on new media platforms are in commercial use.

- Globally, the pace at which professionally produced broadcasting content is being made available online is accelerating, but Canadian participation is lagging with respect to the amount of high-quality, professionally produced new media broadcasting content available and the level of early stage investment in the new media broadcasting environment.

- Advertisers are increasingly embracing new media broadcasting marketing strategies. Internet advertising expenditures, of which new media broadcasting is expected to garner an increasingly greater share, continue to grow at unsurpassed rates.

In the past year, research and stakeholder consultation through the New Media Project Initiative has identified several key issues concerning high-quality Canadian new media broadcasting content, including:

- the need for increased support for Canadian new media broadcasting content;
- the need to promote Canadian content in a global new media broadcasting environment;
- the need to study the impact of traffic management techniques on new media broadcasting insofar as they may impair access to Canadian content; and
- the need for clearer definitions concerning new media broadcasting.

Stakeholder suggestions concerning the development of opportunities in the new media broadcasting environment vary widely, as the broadcasting system continues to evolve in a borderless, increasingly converged world.

Accordingly, the Commission now considers it appropriate to review the new media broadcasting environment and, if necessary, revise the exemption orders relating to new media. Fundamentally, it is necessary to determine if the new media broadcasting environment is contributing sufficiently to the achievement of the broadcasting policy objectives of the Act, and if it will continue to do so. Public discussions that encompass Canadian new media broadcasting content and access to such content are necessary to gain further knowledge and to ensure the new media broadcasting environment continues to contribute to the achievement of the broadcasting policy objectives of the Act.

Section I. Introduction

A. Synopsis

1. Since the release of the first new media exemption order, issued in Public Notice 1999-197 (the New Media Exemption Order),[1] the new media

[1] *Exemption order for new media broadcasting undertakings*, Public Notice CRTC 1999-197, 17 December 1999.

broadcasting[2] landscape has undergone significant changes. Ongoing technological advances, the availability of high-speed Internet and Canadians' continued adoption of new media broadcasting technologies highlight the rapidly evolving new media environment.

2. New media broadcasting has developed in Canada in an unregulated environment. In the absence of regulation governing the type, source, or packaging of broadcasting content on new media platforms, there has been experimentation with new business models, content types, and distribution mechanisms to tap into Canadians' adoption of Internet protocol (IP) technology and devices.

3. Research data now indicates a growing trend toward the consumption of broadcasting content on unregulated platforms, which is showing initial signs of having an impact on the traditional broadcasting system. Audiences for traditional television and radio content have remained constant in recent years, with younger viewers and listeners reporting declines in traditional consumption. Consumer research indicates a trend among many demographics towards consumption of broadcasting everywhere and anytime and available on various new platforms, including the personal computer and mobile devices.

4. A variety of Internet-enabled new media broadcasting companies of varying size and scope now have more direct access to mass audiences. The business models for providing such content are evolving as the ability of content providers to offer broadcasting content to audiences no longer requires them to invest heavily in distribution infrastructure. Further, new media platforms are characterized by an opportunity for content providers to distribute directly to audiences or through a multitude of aggregators.

5. The new media broadcasting environment is developing in a borderless environment when compared to the traditional broadcasting system. Continuous access, minimal capacity concerns, and few scarcity issues provide an unprecedented environment for Canadian new media broadcasting to flourish.

6. This document presents the results of the research and consultations undertaken by the Commission's New Media Project Initiative to investigate the cultural, economic, and technological issues associated with new media broadcasting.

[2] The New Media Exemption Order states "New media broadcasting undertakings provide broadcasting services delivered and accessed over the Internet, in accordance with the interpretation of "broadcasting" set out in Broadcasting Public Notice CRTC 1999-84 / Telecom Public Notice CRTC 99-14, *Report on New Media*, 17 May 1999."

B. Historical background

7. The Act broadly sets out Canada's cultural objectives for broadcasting and the respective roles of the Commission and the Canadian Broadcasting Corporation (CBC). The Act additionally sets out Parliament's intent that the broadcasting system serve the public interest by strengthening Canada's economic, political and social structures and that it be substantially owned and controlled by Canadians.

8. As a result of the significant developments in digital media since the issuance of the New Media Exemption Order, including Canadians' adoption of the technological tools necessary to use new media, the Commission has received submissions calling for a review as to whether the existing set of regulatory measures for traditional broadcasting continue to be appropriate as the means for achieving the objectives of broadcasting policy for Canada set out in the Act.

9. In approaching this prerogative to regulate where necessary to achieve the Act's broadcasting policy objectives (section 3(1)), the Commission must also be mindful of the Act's regulatory policy objectives indicating that the Canadian broadcasting system should be regulated and supervised in a flexible manner (section 5(2)). Broadcasters and broadcast distribution undertakings (BDUs) face increased competition by IP-enabled competitors that operate without the regulatory requirements relating to licensing and content and other obligations. The balance between market and cultural objectives is never trivial and requires continual assessment of the environment to determine the optimal regulatory approach for the benefit of Canadians.

Previous Commission determinations

10. In Telecom Public Notice 99-14 / Broadcasting Public Notice 1999-84 (the New Media Policy),[3] the Commission clarified that services consisting predominantly of alphanumeric text and those with the potential for significant user customization do not "involve the transmission of programs for reception by the public and are, therefore, not broadcasting."

[3] *New Media*, Telecom Public Notice CRTC 99-14 / Broadcasting Public Notice CRTC 1999-84, 17 May 1999.

11. The Commission concluded that those elements of new media that do not consist predominantly of alphanumeric text or have potential for significant user customization fall within the definition of "broadcasting" in the Act.[4]

12. In the accompanying New Media Exemption Order, the Commission determined that with respect to the remaining services that do fall within the scope of the regulations of the Act, compliance with Part II of the Act and applicable regulations made thereunder by new media broadcasting undertakings providing broadcasting services delivered and accessed over the Internet would not contribute in a material manner to the implementation of the broadcasting policy set out in subsection 3(1) of the Act. The 1999 New Media Exemption Order has since been clarified in Broadcasting Public Notice 2003-2 (Public Notice 2003-2) and expanded in Broadcasting Public Notice 2006-47 (Public Notice 2006-47) and Broadcasting Public Notice 2007-13 (Public Notice 2007-13).[5] [6]

13. The 1999 New Media Exemption Order was explicit with respect to the Commission's purpose in exempting new media broadcasting undertakings from the requirement for licensing. The order states: "The Commission expects that the exemption of these services will enable continued growth and development of the new media industries in Canada, thereby contributing to the achievement of the broadcasting policy objectives, including access to these services by Canadians."

14. The Commission's objective in exempting new media undertakings was to allow continued innovation by stakeholders to exploit the new opportunities made possible by Internet technology. It noted in the 1999 *Report on New Media* that Canadian content was being created for and consumed on the new platform and that access to the Internet was growing. Further, the Commission was of the view that the effect of new media on television audience size would be limited until such time as high-quality video programming could be distributed on the Internet.

15. The above documents underscore the Commission's general practice to exempt undertakings where no significant contribution to the Canadian

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[4] According to the Act, "broadcasting" means "any transmission of programs, whether or not encrypted, by radio waves or other means of telecommunication for reception by the public by means of broadcasting receiving apparatus, but does not include any such transmission of programs that is made solely for performance or display in a public place."

[5] *Internet retransmission – Report to the Governor in Council pursuant to Order in Council P.C. 2002-1043*, Broadcasting Public Notice CRTC 2003-2, 17 January 2003; *Regulatory framework for mobile television broadcasting services*, Broadcasting Public Notice CRTC 2006-47, 12 April 2006; *Exemption order for mobile television broadcasting undertakings*, Broadcasting Public Notice CRTC 2007-13, 7 February 2007.

[6] The Commission also regulates telephone companies carrying on distribution undertakings over private IP networks (IPTV or "Telco TV") within the BDU licensing framework. The Commission began issuing BDU licences to telephone companies in 1998.

broadcasting system can be expected and where there will be no significant impact on the Canadian broadcasting system. Exemption orders for distribution and programming undertakings are issued according to the guidelines set out in Public Notice 1996-59.[7]

16. In Public Notice 2006-47, which called for comments on a proposed exemption order for mobile television broadcasting services, the Commission again confirmed its exemption of new media as the new undertakings in question had yet to have an impact on the achievement of the Act's objectives:

> … [T]he Commission concludes that, given the current technical challenges associated with the wireless technology noted above, the mobile television broadcasting services are unlikely in the near future to become substitutes for conventional broadcasting services or impede the ability of traditional broadcasters to fulfil their obligations under the Act. Further, based on their channel line-ups, the Commission notes that the services are distributing a number of Canadian services to subscribers.

17. In Public Notice 2007-13, the Commission exempted undertakings that "provide television broadcasting services that are received by way of mobile devices, including cellular telephones and personal digital assistants." It was further clarified that only point-to-point technology was included within the exemption order. The Commission determined at that time that potential impact from point-to-multipoint broadcast technologies was still uncertain and thus decided not to include them in the exemption order.

18. In Broadcasting Public Notice 2008-4,[8] the Commission noted that in regard to professional editorial voices, new media platforms largely offer content that was originally produced for licensed radio or television stations or for newspapers. As a consequence, the Commission's approach to ensuring a plurality of editorial voices on traditional media will also benefit the plurality of voices available on new media undertakings. In addition, the Commission recognizes the availability on the new media platforms of an enormous range of user-generated editorial content from Canadian and foreign sources.

[7] *Policy Regarding the Use of Exemption Orders*, Public Notice CRTC 1996-59, 26 April 1996.
[8] *Regulatory Policy - Diversity of voices*, Broadcasting Public Notice CRTC 2008-4, 15 January 2008.

Future environment report

19. Prepared pursuant to section 15 of the Act and issued in December 2006, the Commission's *Report on the Future Environment Facing the Canadian Broadcasting System* (the Future Environment Report)[9] was presented in response to the Governor in Council's order that the Commission create a "factual record on the future environment facing the whole broadcasting system that will inform the Government's own policy determinations with respect to the future of broadcasting in Canada."

20. In the Future Environment Report, the Commission determined that public policy action would need to be taken within the next three to seven years if it were to have the desired effect. Since the close of the official record of the Future Environment proceeding, significant advances in technology and consumer behaviour trends have led the Commission to launch the New Media Project Initiative.

21. In summary, the Future Environment Report:

    - provided a comprehensive survey of the technological developments and trends that have wrought significant change in the Canadian broadcasting environment;

    - presented statistics and research across a broad range of technologies used by consumers, including traditional broadcast media and emerging devices and applications;

    - was developed from stakeholder submissions, made use of research commissioned by the Commission, and took into account the findings of primary and secondary research submitted by parties to the process; and

    - noted the adoption by Canadians of technologies and applications that have been anticipated by some parties to pressure the ability of the regulated broadcast system to meet the objectives of the *Act*.

22. The purpose of this New Media Project Initiative document is not to re-create the Future Environment factual record but to highlight changes since 2006. While interested parties are invited to consult the Future Environment Report for a comprehensive overview of the growth in new media technology adoption and traditional media use, it is important to note that in the rapidly evolving new media environment relevant data is changing constantly.

23. While the base research and trends identified in the Future Environment Report remain relevant, the consultations and research conducted as part

[9] http://www.crtc.gc.ca/eng/publications/reports/broadcast/rep061214.htm

of the New Media Project Initiative indicate that the environment has undergone significant evolution.

New Media Project Initiative

24. In 2007, the Commission launched the New Media Project Initiative to examine the cultural, economic, and technological issues associated with new media broadcasting.

25. The intergovernmental New Media Advisory Committee was established in 2007 to provide guidance and advice to the New Media Project Initiative. Senior officials from the Commission, the Department of Canadian Heritage, the Competition Bureau, the Department of Industry, Telefilm Canada, the National Film Board, Communications Research Centre Canada and the Copyright Board liaise to share and exchange information on the new media broadcasting environment.

26. The first phase of the project comprised contracted research,[10] market research and informal industry consultations.

27. The Commission consulted with over sixty stakeholders and several international regulatory organizations, including the European Commission, the FCC, Ofcom, CSA, ARCEP, and the OECD. Informal discussions were held to develop an understanding of the new media environment, consumer trends, technology developments, impacts on traditional broadcasters, barriers to achieving the objectives of the *Act* and suggested public policy measures. Appendix A captures the list of parties consulted.

28. The second phase of the project was the validation phase, the goal of which was to engage industry members and other stakeholders in discussions on the issues identified in the first phase of the project. The following discussion forums were held:

    - CRTC Invitational Forum, October 2007;
    - Concordia University Journalism Student Session, November 2007;
    - nextMEDIA, November 2007; and
    - Canadian Film & Television Production Association (CFTPA), February 2008

[10] The public research is available on the Commission's website at http://www.crtc.gc.ca/eng/media/media.htm.

29. In addition, events organized by the Department of Canadian Heritage (Cultural Innovation Forum) and the Department of Industry (OECD-Canada Technology Foresight Forum on the Participative Web: Strategies and Policies for the Future) provided effective forums for the exchange of research and ideas surrounding a variety of new media broadcasting issues.

30. Finally, research and data were shared collectively with those stakeholders consulted in the first phase to validate the data findings and identified preliminary observations.

C. Summary of issues

31. Several issues stemming from the introduction and adoption of new media technologies have been raised by stakeholders through the consultation process undertaken by the New Media Project Initiative.

32. Many stakeholders have raised the fundamental question of how to define new media broadcasting. Some stakeholders have suggested a broad definition to capture all audio-visual programming online regardless of the method employed to retrieve it, such as downloading, streaming, or peer-to-peer distribution. Others, however, caution that such a broad definition could include digital retail activities. (for example, digital music, television and film purchase), which they argue should not be considered broadcasting for the purposes of furthering the broadcasting policy objectives of the Act.

33. Increased support for the creation of Canadian new media broadcasting content has been raised by cultural groups and producers as essential to building a visible Canadian presence in the global new media broadcasting environment.

34. Further, cultural groups suggested that promotion is a critical element in raising awareness of the availability of Canadian new media broadcasting content, in particular in a borderless new media environment.

35. Some stakeholders suggested that the existing exemption orders allow innovation and diversity to flourish and that they continue to be appropriate.

36. The role of CBC as a creator, promoter and distributor of high value Canadian new media broadcasting content was raised by stakeholders.

37. Internet service providers (ISPs) are concerned about the capacity of their networks, as well as of the Internet as a whole, in the new media broadcasting environment and suggest that traffic management techniques are necessary to ensure effective administration of their networks. Content

providers caution that access to Canadian new media broadcasting content may be impaired if ISPs employ stringent traffic management techniques.

38. Intra-governmental issues were raised by various stakeholders in the consultation and validation phases leading to this document, including calls for an efficient and effective copyright regime, increased direct government subsidy, and amendments to the *Income Tax Act*.

39. Further, issues surfaced that are beyond the focus of this document. Privacy and accessibility issues raised by stakeholders are important but fall outside the scope of the research and consultation undertaken for this document.

Section II. New media landscape

40. New media broadcasting is broadly defined as the migration of broadcasting content to mobile and IP distribution. Increasingly, new media broadcasting platforms are providing broadcasting services analogous to television and radio. Further, new forms of programming created specifically for an interactive environment are reaching Canadian homes.

41. The availability of new media broadcasting content is supported by a variety of business models and strategies, policy-driven funding and growth in online advertising revenues.

42. Changes in the new media broadcasting landscape have been driven largely by a profound acceleration in technological capabilities and consumer adoption. It is now technologically feasible to create substitutable broadcast experiences using commonly available and affordable broadband connections.

43. There are, however, challenges to be overcome before Canadian creators are able to exploit fully the opportunities in the new media broadcasting environment. New distribution technologies demand that content providers make their content available in multiple formats at the content provider's expense. Compensation for multi-platform distribution involves complex negotiations between content providers and content distributors, with both sides seeking to maximize their return on investment. The emergence of viable business models continues to be tempered by rights clearance and other issues. Further, technology is still in the early stages of responding to consumer demands for the seamless transfer of digital content between devices within the digital home.

44. Despite these challenges, the underlying trends point clearly to a changing environment as content providers continue to innovate and experiment on

new mobile and IP platforms that have become mainstream in Canadian homes.

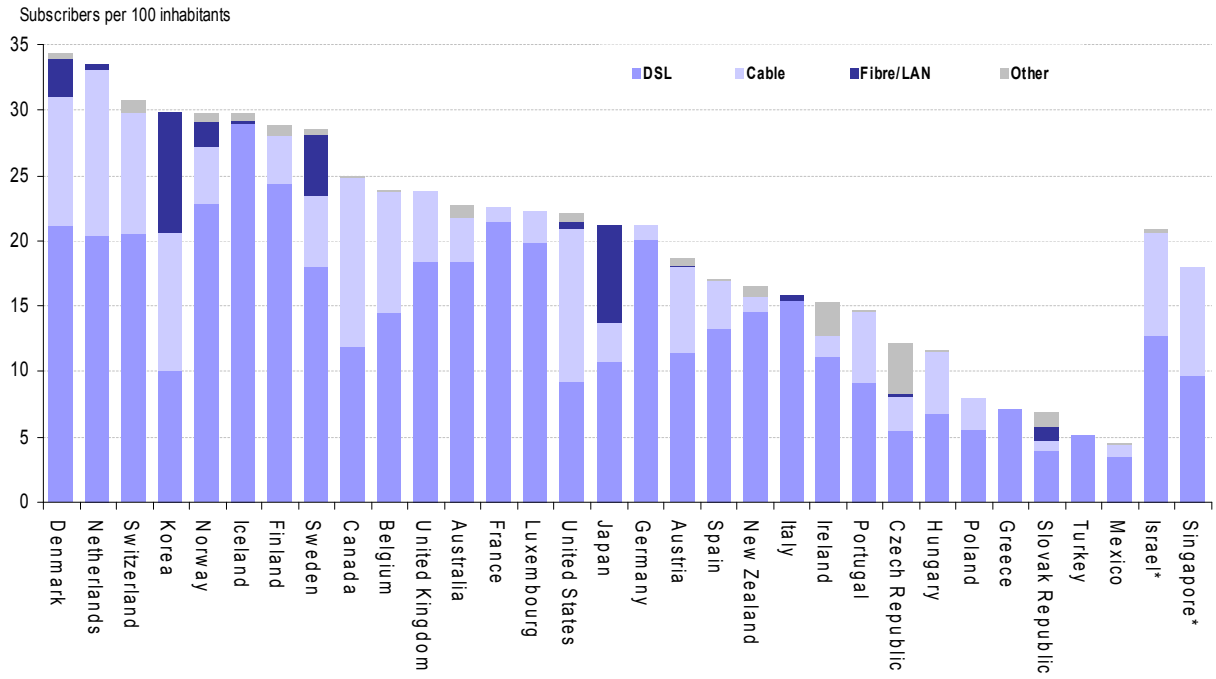
A. Mainstream broadband adoption

45. Relative to the situation in 1998, when the Commission last conducted an in-depth analysis of the impact of new media, there has been a sea change in the level of broadband Internet penetration. In 1998, fewer than 10% of Canadian households subscribed to broadband Internet. Today, the most recent data collected by the Commission indicates that over 60% of Canadian households subscribed to broadband Internet in 2006, which undoubtedly increased in 2007. This is consistent with overall greater technology adoption by Canadians over the past decade.

46. The rapid rise in broadband-connected homes was a critical precondition to the current new media broadcasting landscape. Broadband speeds are required for real-time and rich media applications such as digital voice, audio, video, high-resolution photographs and others. Without broadband access, the current crop of video applications would not be feasible since the high volume of data that must be transferred from a host server to a PC or other device would take so long as to make the experience unacceptable.

47. Canada is a global leader in broadband connectivity. While worldwide trends have seen other jurisdictions erode an early Canadian leadership position with respect to broadband penetration, the country overall remains above the OECD average and is first among G8 countries, despite the challenges inherent in connecting a geographically dispersed population.

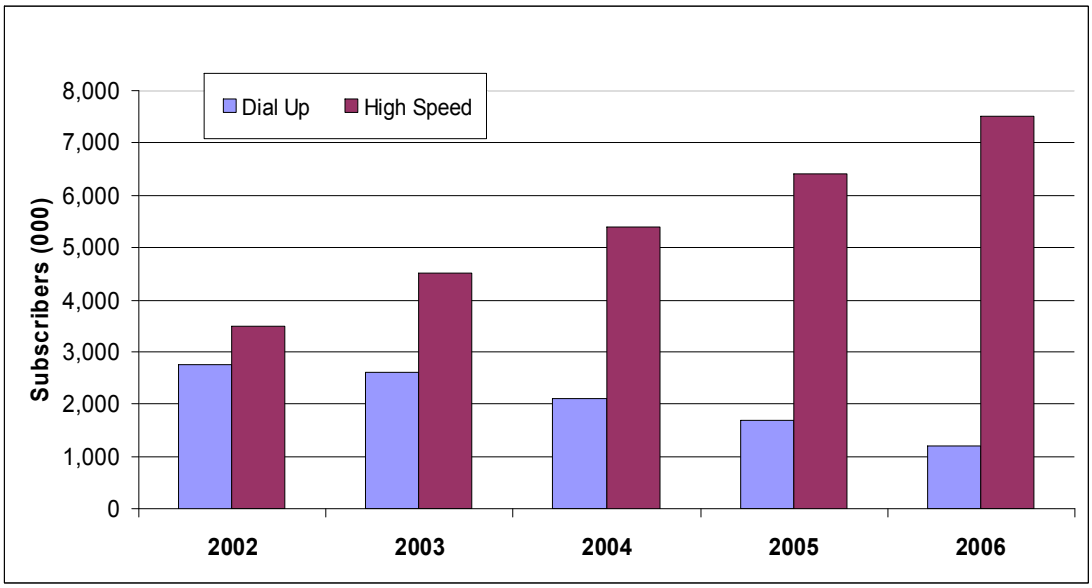
Figure 1: Broadband access in OECD countries per 100 inhabitants (June 2007)



* Data for Israel and Singapore are for December 2006.
Source: OECD http://www.oecd.org/document/23/0,3343,en_2649_34449_33987543_1_1_1_1,00.html

48. Between 2002 and 2006, broadband subscriptions grew at a compounded annual growth rate (CAGR) of over 20%. In particular, an intensive decade-long period of capital expenditure by the incumbent facilities-based cable and telecommunications companies and other competitors has resulted in nearly ubiquitous access by Canadians to a high-speed Internet provider, with some notable exceptions in rural and remote communities. Approximately 93% of Canadian households are served by a facilities-based provider, either through a telephone company using digital subscriber line technology and its various versions, through a cable company serving customers with various DOCSIS technologies, or by other technologies (e.g. WiFi, satellite). The figure below shows the rise of broadband penetration in Canada.

Figure 2: Residential Internet subscriptions in Canada

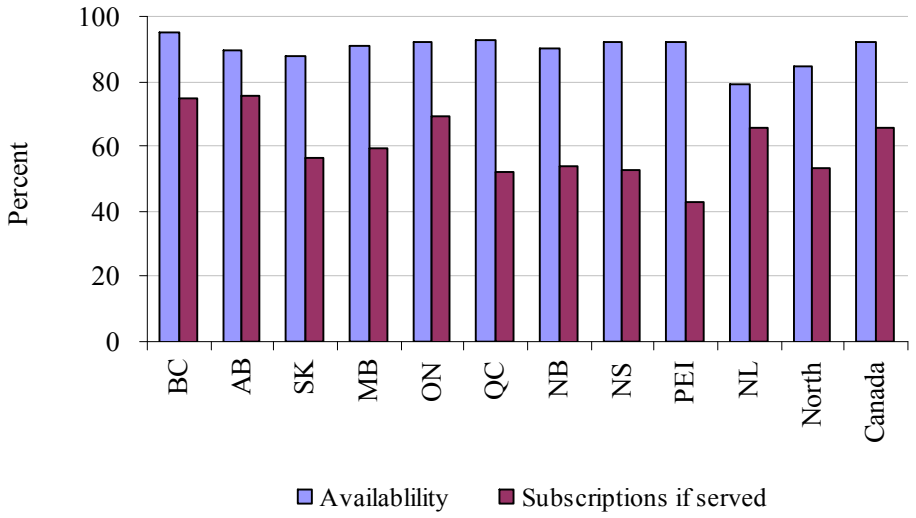


Source: CRTC Telecommunications Monitoring Report, 2007

49. The most recent data reported by the Commission, as displayed in Figure 3, indicates that on a provincial/territorial basis, broadband access is available to over 93% of households. This availability ranges from a low of 79% in Newfoundland and Labrador to a high of 95% in British Columbia.

50. Further, Figure 3 shows that in 2006, while 93% of Canadian households have access to broadband services, just over 60% of these households actually subscribe to the service. The lowest subscription rate was in Prince Edward Island at 43% of households and the highest subscription rate was in Alberta and British Columbia at 74%.

Figure 3: Broadband availability vs. subscriptions (2006)



Source: Industry Canada and CRTC data collection

51. The risk of early investment by telecommunications and cable companies has largely been rewarded as those companies see growing revenues from residential Internet access subscribers (see Table A).

Table A: Residential Internet access revenues by type of service provider ($ millions)

	2002	2003	2004	2005	2006	*Growth 2005-2006*	*CAGR 2002-2006*
Incumbent Telecom Service Provider (TSP) (excluding out-of-territory)	780.0	892.0	1,041.8	1,206.3	1,319.0	*9.3%*	*14.0%*
Market share	*40.1%*	*39.1%*	*41.3%*	*42.5%*	*41.3%*		
Cable BDUs	846.2	1,049.3	1,218.5	1,392.7	1,656.9	*19.0%*	*18.3%*
Market share	*43.6%*	*46.0%*	*48.3%*	*49.1%*	*51.9%*		
Incumbent TSPs (excluding out-of-territory) and cable BDUs subtotal	1,626.2	1,941.3	2,260.3	2,599.0	2,975.9	*14.5%*	*16.3%*
Market share	*83.7%*	*85.2%*	*89.6%*	*91.6%*	*93.3%*		
Other TSPs	316.9	338.2	263.3	239.3	215.2	*-10.1%*	*-9.2%*
Market share	*16.3%*	*14.8%*	*10.4%*	*8.4%*	*6.7%*		
Total	1,943.1	2,279.5	2,523.6	2,838.3	3,191.1	*12.4%*	*13.2%*

Source: CRTC Telecommunications Monitoring Report, 2007

52. It is also important to consider that residential Internet access speeds are rising quickly. Broadband speeds over 3 Megabits per second (Mbps) are common (see Table B) and few multimedia applications that are substitutable for traditional standard-definition television and radio require rates any higher than these.

Table B: Canadian residential access speeds

Downstream Speed	Subscribers (000s)
Lite and Wideband (up to 256 kbps)	**698.3**
Wideband (600 – 1000 kbps)	**1,014.5**
Broadband 1.5, 2, and 3 Mbps	**1,038.2**
Broadband 5 Mbps	**3,190.5**
Broadband >5 Mbps	**938.8**

Source: CRTC Telecommunications Monitoring Report, 2007

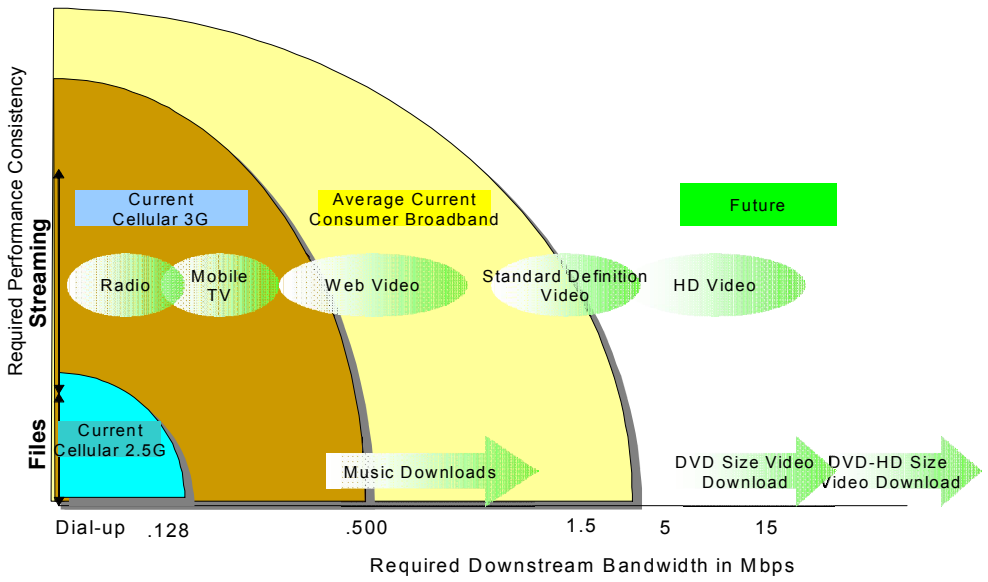
53. In addition to the core backbones which haul Internet traffic, there is a separate layer of Content Delivery Networks (CDNs) and other storage systems built to support rapid and predictable delivery of online content. Several companies specialize in distributing and storing copies of content and sell their services directly to content providers to reduce distribution costs and to improve the speed at which subscribers can receive requested content, such as audio and video programs.

54. Multiple providers of new media broadcasting content intended to be viewed on multiple screens (e.g. Canadian and foreign content aggregators) offer their services in Canada, lured by high broadband penetration rates and an active online population.

B. New media broadcasting speed requirements

55. The new media broadcasting environment provides a variety of streaming speeds and a range of image quality. The download speeds and sustained performance required to achieve the delivery of typical broadcasting content are shown in Figure 4. The required data rates for optimal quality are also dependent on the compression technologies that are utilized. Several online video platforms are now using MPEG-4-based compression technologies to offer high quality experiences with reduced bandwidth requirements.

Figure 4: Download speeds (minimum sustained speed) to achieve delivery of broadcasting content



C. The digital home

56. During its consultations, the Commission noted a general consensus that mass consumption of new media broadcasting content depends on successfully bridging the connectivity gap between Internet sources and home audiovisual components.

57. A number of products providing this communications link are available and continue to be introduced. Media extenders distribute audiovisual content utilizing home networks, and devices are increasingly being sold with integrated connectivity capabilities. This enables connectivity between television displays, home stereo components, media storage devices, personal video recorders, set-top boxes, game consoles, computers, digital audio players, and other devices.

58. Canadians' digital home device adoption was reported in the 2007 Canadian Internet Project (CIP) CIP2 survey. As highlighted in the following table, home computers, DVDs/VCRs and cellphones are commonplace in Canadian households, while other devices, such as MP3 players and game consoles, are becomingly increasingly mainstream.

Table C: Percentage of households reporting device adoption

	Rest of Canada	Quebec	Total
Computer in the home	85.0	79.0	83.0
PalmPilot or PDA	14.8	6.1	12.6
Portable game system	32.9	20.5	29.9
Video game console	40.8	41.6	41.0
DVD/VCR	95.3	88.9	93.7
MP3 player	48.3	37.7	45.7
HDTV	25.0	20.3	23.9
HDTV set-top box	18.8	15.8	18.1
Cell phone	75.9	56.5	71.3

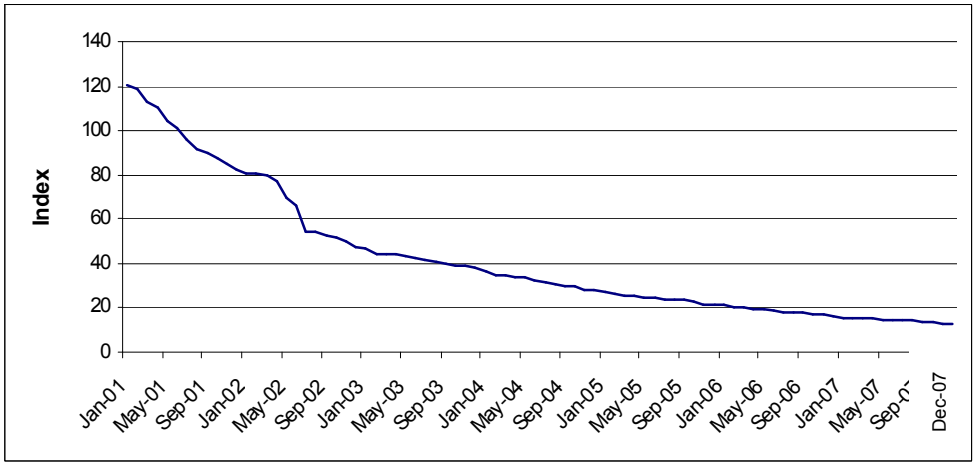
Question: "Could you tell me whether your household has any of the following devices?"
Source: CIP2, 2007.

59. In addition to growing adoption of high-speed Internet access, a precursor to the significant growth in new media broadcasting activity in the past several months has been the growing affordability of very powerful personal computers capable of handling and displaying high-quality graphics. When expressed as index scores, as demonstrated by the Statistics Canada Computer Price Index, the cost of personal computers (portable and desktop) with sufficient RAM, processing speed and hard drive storage to handle downloaded and streaming media files has fallen dramatically over the period for which statistics are available.

60. The Computer Price Index compares a basket of personal computers (portable and desktop) available on the retail market and intended to be sold to consumers during each of the reporting periods and tracks the price change for that basket.[11] In the chart below, the price of a typical computer in 2001 is expressed as a baseline index score of 100. The index score of 13 in December 2007 is a reflection both of the absolute decline in price of computers since tracking began and of the significantly greater power of those computers.

[11] Because personal computer technology is dynamic, adjustments are made to the index to reflect greater storage, memory and processing power. While the absolute price of computers sold at retail continues to fall, the real price decline is amplified by the weighting.

Figure 5: Computer Price Index, consumer, monthly (index, 2001=100)



Source: Statistics Canada. Table 331-0001 - Computer price indexes, by type of purchaser, monthly (index, 2001=100) (table), CANSIM (database). The Computer Price Index tracks "pure" price changes by weighting and updating key variables such as computer prices, random access memory, central processing unit power, hard drive size and extended cache.

61. A similarly rigorous study for consumer electronics is not available, but the same pattern of increased functionality at lower cost is a well-known consumer phenomena. For example, today an iPod with audio and video capabilities and 80 gigabyte of storage capacity is available at 62% of what it cost in 2001 and the capacity has risen by 1,600%.

62. To gain a better understanding of how traditional and alternative broadcasting content sources are now competing for audiences' engagement, the next section explores Canadians' online behaviour.

D. Changes in media consumption patterns

63. Multiple providers of new media broadcasting content intended to be viewed on multiple screens offer their services in Canada, lured by high broadband penetration rates and an active online population. These include foreign providers operating in other jurisdictions whose content is available to Canadians and domestic operators.

64. Audio and video broadcasting content in various forms has become a prominent feature of the new media environment. There are trends that see online media consumption increasing, while traditional broadcasting consumption has declined in the past several years. Recent consumer market research indicates that Canadian Internet users have begun making use of online broadcasting content across a variety of fixed and mobile platforms. Among the findings regarding Canadian online and traditional broadcasting consumption are the following:

- The average TV weekly viewing hours for all persons aged 2+ reached a high of 26.9 hours in 2005-06 and remained at 26.8 hours in 2006-07.[12]

- While tuning levels in radio's core 35 to 54 demographic have remained fairly steady, overall per capita weekly radio listening levels decreased by half an hour from 2005 to 2006 (19.1 to 18.6 hours) and experienced a continued decline in 2007 (to 18.3 hours). Since 1999, per capita weekly radio listening levels have decreased by more than two hours (20.5 to 18.3 hours).[13]

- In 2007, over 50% of Canadians with Internet access downloaded videos from the Internet (23% at least once a week) and over 56% of Internet users downloaded or listened to music online.[14]

- The majority of radio broadcasters are simulcasting online.[15]

- All major mobile providers offer broadcasting content to their subscribers.

65. As reported in the 2007 CIP2 survey, for both audio and video, those reporting at least some usage of streaming and downloaded music, video, and podcasts ("streamers/downloaders") had a lower mean reported consumption on traditional broadcasting platforms.[16]

Table D: Mean weekly reported hours of TV consumption by Internet users

Mean weekly reported consumption of television	
Non-video streamers/downloaders	10.51
Video streamers/downloaders	8.81

Question: "During a typical week, how many hours and minutes, if any, do you spend on the following activities that are not on the Internet?"
Source: CIP2, 2007. Mean weekly consumption reported by Internet users.

[12] BBM Canada TV Meter Databook, 2006-07.
[13] BBM Canada 2007-08 Radio Databook.
[14] CRTC commissioned July 2007 Decima study on *Access to News Sources*; CIP2, 2007.
[15] Erin Research Inc., *Music on the Internet: A Canadian Perspective.* November 2006.
[16] It should be noted that there is likely significant underreporting of consumption compared to more accurate methods such as diary or metered tracking. The data should be treated as directional only.

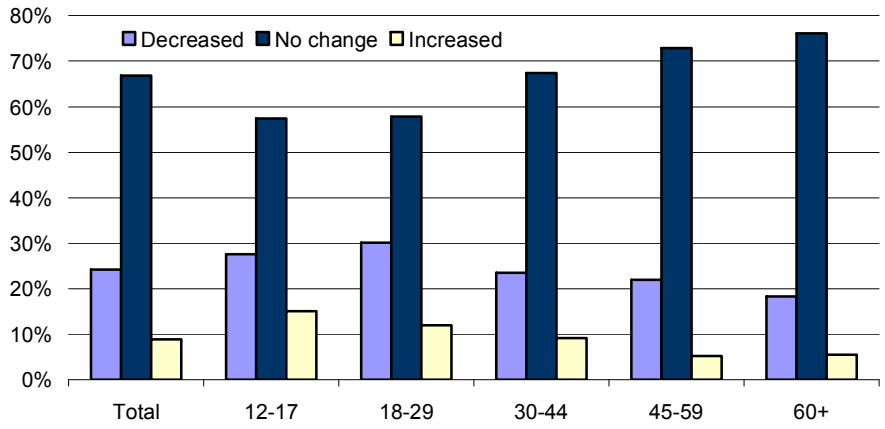
Table E: Mean weekly reported hours of radio consumption by Internet users

Mean weekly reported consumption of radio	
Non-music listener/downloaders	9.35
Music listener/downloaders	7.45
Non-podcast listener/downloaders	8.35
Podcast listener/downloaders	7.74
Non-online radio listeners	7.89
Online radio listeners	8.93

Question: "During a typical week, how many hours and minutes, if any, do you spend on the following activities that are not on the Internet?"
Source: CIP2, 2007.

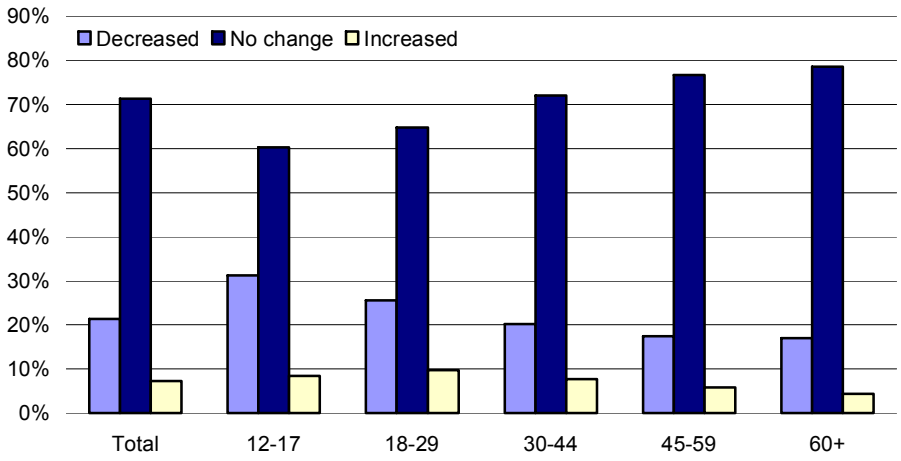
66. In the same survey, respondents were asked explicitly about the impact of their Internet use on their television and radio consumption. A sizeable majority of Internet users reported no change. However, a significant number of respondents reported that their television (Figure 6) and local broadcast radio (Figure 7) consumption has decreased.

Figure 6: Reported change in television viewing



Question: "Since using the Internet, has your use of [television] increased or decreased?
Source: CIP2, 2007.

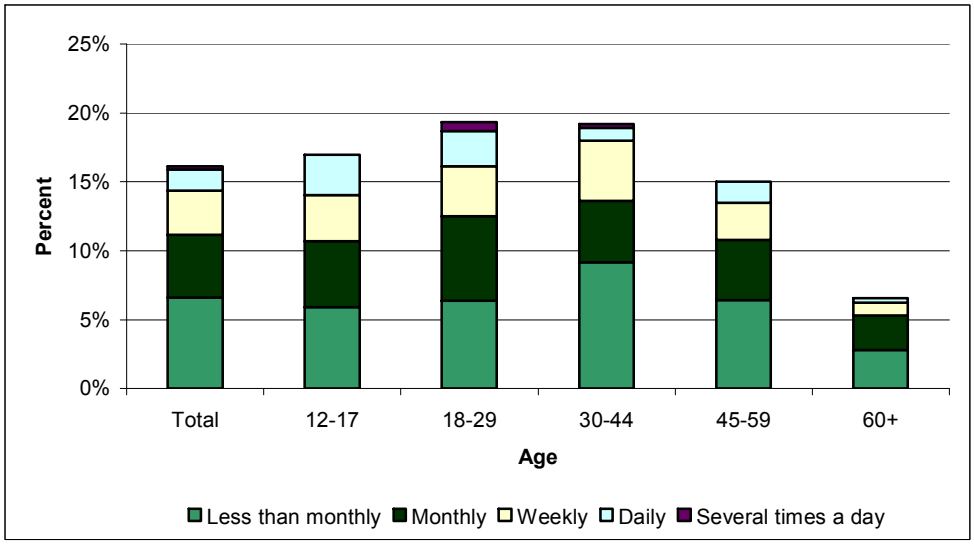
Figure 7: Reported change in local broadcast radio listening



Question**:** "Since using the Internet, has your use of [local broadcast radio] increased or decreased?
Source: CIP2, 2007.

67. As shown in Table E above, Canadians who reported downloading or listening to podcasts demonstrated a lower mean consumption of local radio broadcasting. It is nonetheless a minority who reported any podcast usage. Approximately 20% of Canadians online aged 12-44 reported using podcasts, with a significant number of these reporting less than monthly activity.

Figure 8: Canadians' online reporting downloading or listening to podcasts



Question: "Please tell me how frequently you use the Internet for the following activities…download or listen to podcasts."
Source: CIP2, 2007.

68. According to the CIP2 survey (in regard to differences between Quebec and the rest of Canada), 9% of Quebec respondents reported podcast activity, compared to 18% for the rest of Canada and 16% for the country as a whole.

69. Time spent on the Internet includes a broad scope of activities, including broadcasting and non-broadcasting activities such as e-commerce, social networking and gaming. Accordingly, while comparing traditional television and radio usage with Internet usage may not be a pure association, it is evidence of how Canadians spend their time.

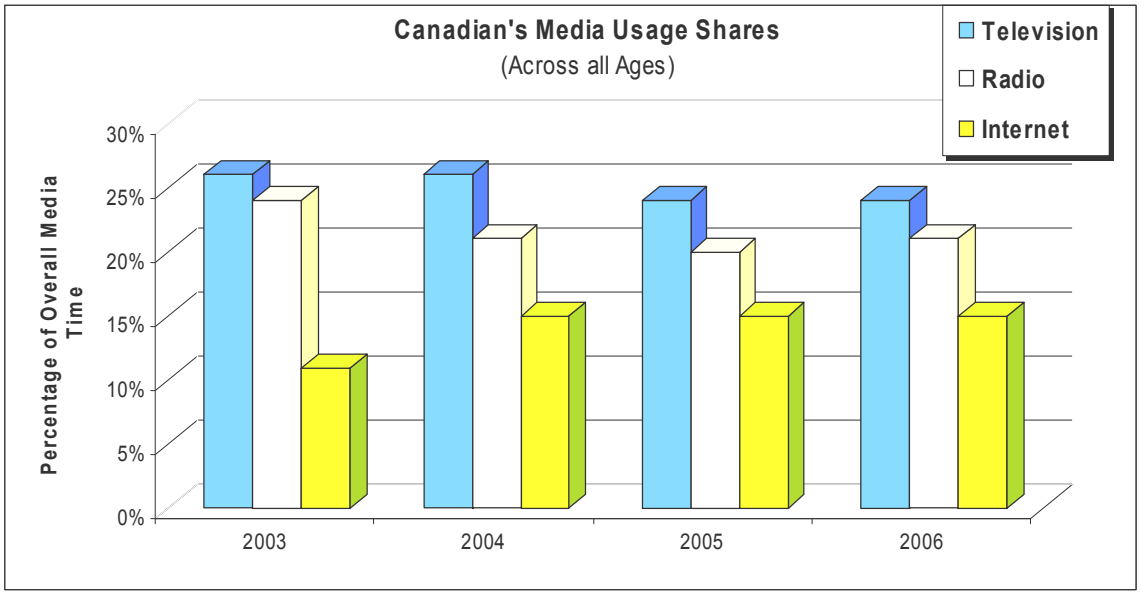
70. The table below lists the time spent by Canadian residents with different media. This data is taken from the *Fast Forward Trend Analysis* report submitted in August 2006. It demonstrates no significant difference between Quebec and the rest of Canada with respect to the share of time spent with various media.

Table F: Percentage of time spent on various media

Activity	Rest of Canada (%)	Quebec (%)
Watching TV	**24**	**24**
Watching DVD / Videos	**5**	**6**
Listening to Radio	**20**	**23**
Listening to Music CDs	**18**	**16**
Reading	**16**	**17**
Using the Internet	**15**	**13**
Playing Video Games	**2**	**2**

71. As shown in Figure 9 below, in aggregate from 2003 to 2006, Canadians spent a relatively consistent 55-60% of their time with media on a combination of television, radio and Internet. Within that period, Internet usage grew as a relative percentage compared with television and radio over this period.

Figure 9: Canadians' media usage (all ages)



Source: Solutions Research Group – Fast Forward Trend Analysis 2006.

72. Younger Canadians lead the way in the use of new media platforms, potentially at the direct expense of traditional media consumption:

    - In 2006, 91% of Canadians aged 18 to 34 accessed the Internet, compared to only 69% of Canadians aged 55 or older.[17]

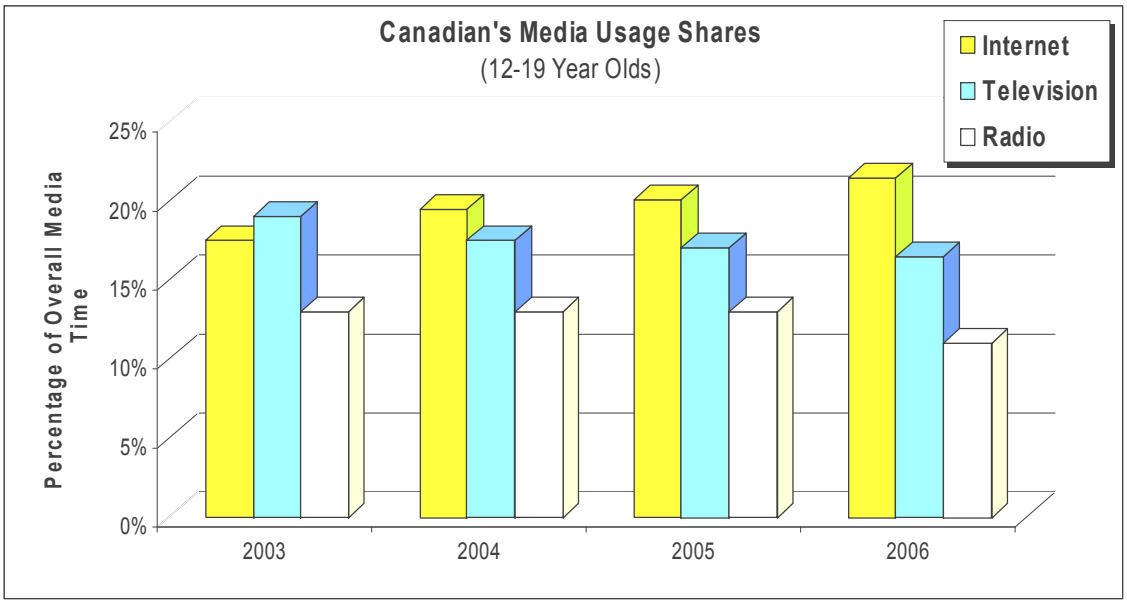
    - In December 2006, approximately 30% of Canadian adults with Internet access connected for more than 10 hours of Internet use per week. This percentage increases to 52% for young Canadian adults aged 18 to 24.[18]

    - Canadians under 18 now spend roughly the same amount of time online (watching videos, exchanging emails, participating in social networking sites, etc.) as they do watching TV (15 to 17 hours).[19]

73. Trending data relating to the younger demographic from 2003-2006 reveals an increase in online media consumption, while traditional broadcasting consumption decreased as depicted in Figure 10 below.

[17] CyberTRENDS, December 2006.
[18] *Ibid.*
[19] *Ibid.*

Figure 10: Canadians' media usage (12-19 year olds)

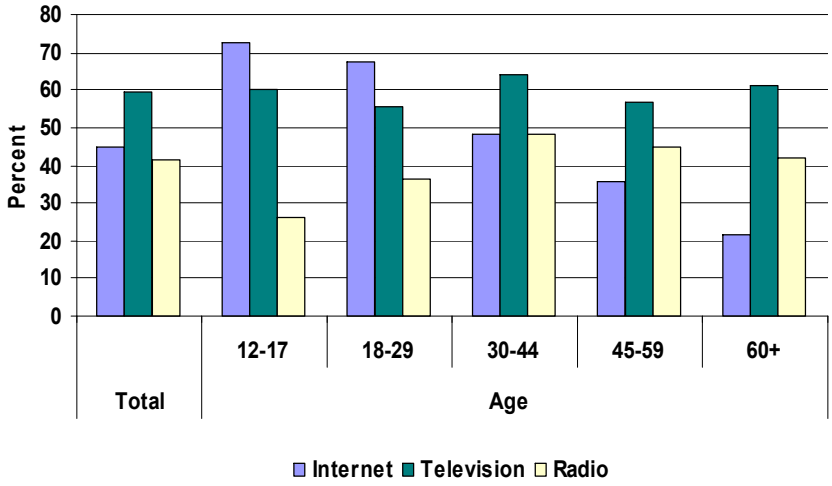


Source: Solutions Research Group – Fast Forward Trend Analysis 2006.

74. As reported in the CIP2 survey, consideration of the Internet as an important source of entertainment is clearly delineated by age. As shown in Figure 11 below, youth value the Internet for entertainment far more than other age demographics.

Figure 11: Internet, television and radio as an important source of entertainment

(% responding important or very important)

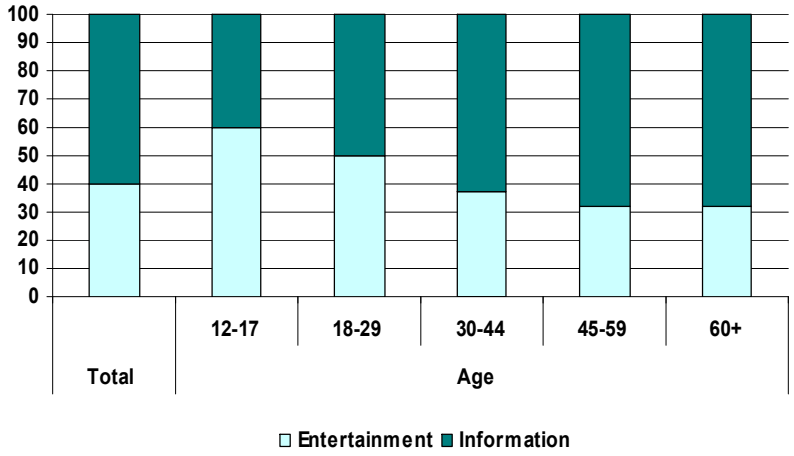


Question**:** "How important is each of the following sources for entertainment in general?"

Source: CIP2, 2007.

75. As shown in Figure 12, Canadians between the ages of 12 to 29 spend more time on the Internet for entertainment than for information.

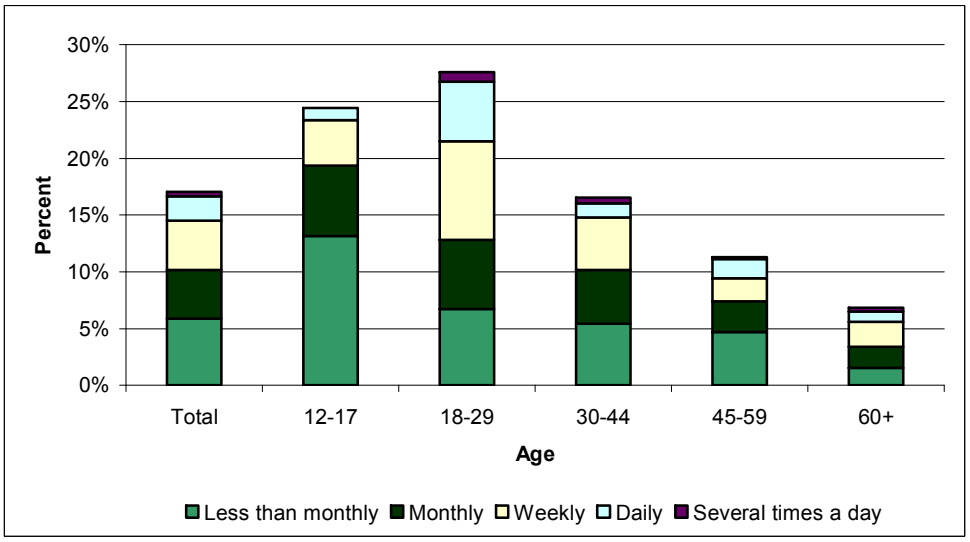
Figure 12: Percentage of time spent on the Internet for the purpose of entertainment versus information



Question: "Out of 100, what percentage of time do you spend using the Internet for information purposes as opposed to entertainment purposes?"
Source: CIP2, 2007

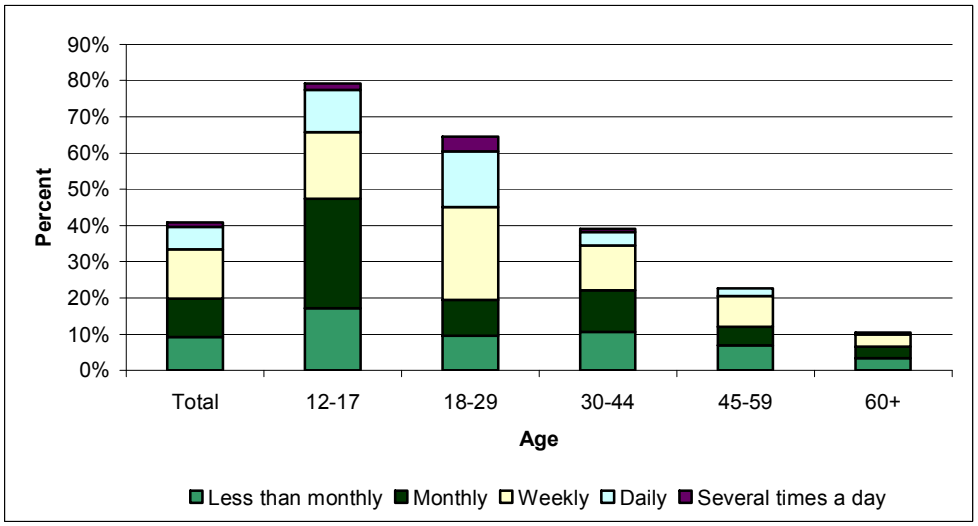
76. According to the same CIP2 study, as illustrated in Figures 13 and 14 below, a significant portion of youth reported at least monthly streaming, downloading, or watching television or video for personal entertainment.

Figure 13: Downloading, streaming or watching television on the Internet



Question**: "**Please tell me how frequently you use the Internet for the following activities? Download, stream or watch television."
Source: CIP2, 2007.

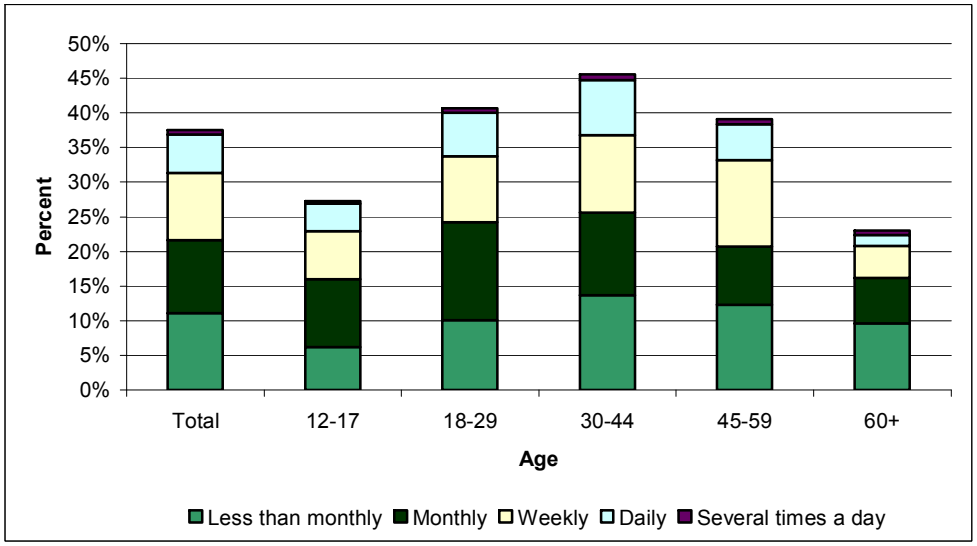
Figure 14: Percentage of Internet users reporting online video use



Question: "Please tell me how frequently you use the Internet for the following activities…download or watch videos."
Source: CIP2, 2007.

77. As reported in the CIP2 study, Canadians aged 18 to 44 report higher online radio station listening than other age groups. When compared to other online activities, listening to radio stations online is popular with this demographic.

Figure 15: Canadians reporting online radio station listening

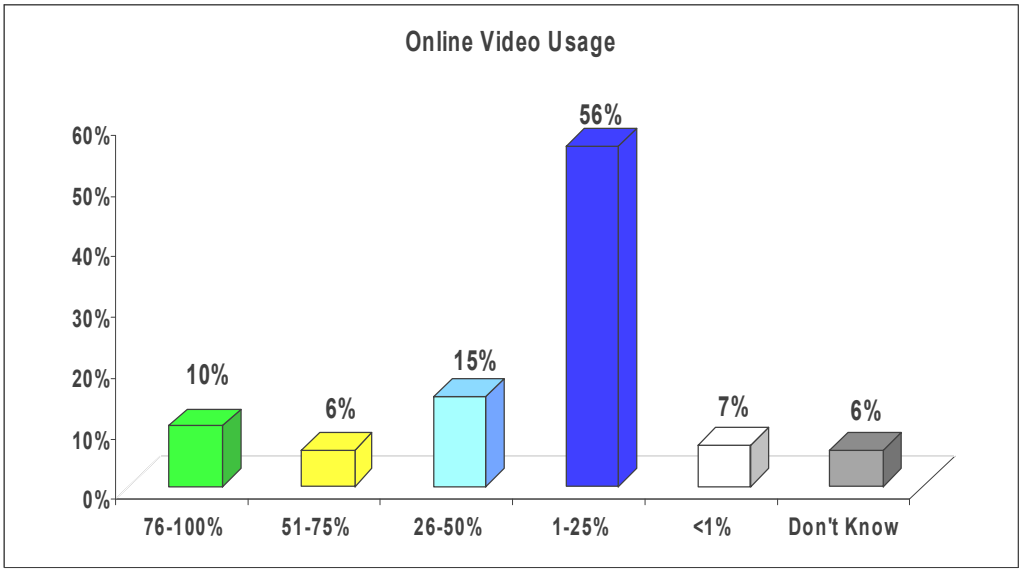


Question: "Please tell me how frequently you use the Internet for the following activities…online radio station listening."
Source: CIP2, 2007.

78. When Canadians were asked in a 2007 Decima Research survey[20] about how often they viewed or downloaded online video, 23% of respondents indicated a frequency of at least once per week. The respondents who indicated that they viewed or downloaded video using the Internet were asked approximately what percentage of the video they watched came from the Internet as opposed to other sources such as TV, DVDs and video cassettes. The figure below illustrates the responses.

[20] http://www.crtc.gc.ca/eng/publications/reports/decima2007.htm

Figure 16: Percentage of online video usage



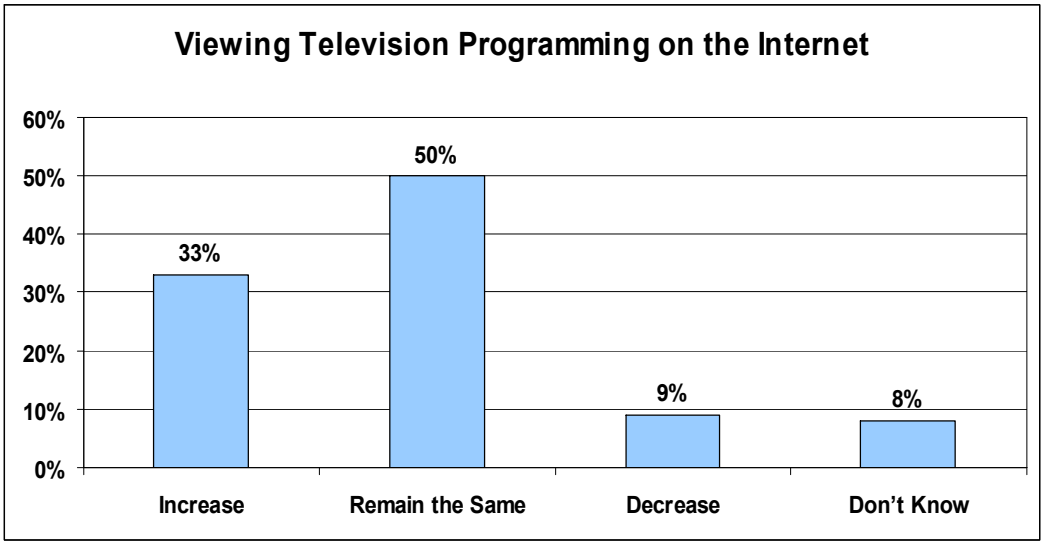
Question: "Approximately what percentage of all the video you watch is over the Internet or from online sources, as opposed to other more traditional media sources such as television, video cassettes and DVDs?"
Source: Decima Research Survey, July 2007.

79. The above figure indicates that of those individuals consuming online video, 63% indicated that they get 25% or less of their video through that platform. Additionally, 10% of those who responded indicated that they get at least 76% of their video content from the Internet.

80. A 2008 Decima Research study reported that the vast majority (80%) of respondents who view television programming on the Internet consider it to be complementary to traditional television program viewing, while 9% of respondents consider it to be a replacement to traditional television program viewing. Additionally, 16% of respondents located in the northern regions of Canada report television viewing on the Internet to be a replacement to traditional television program viewing; similarly, 14% of respondents aged 18 to 34 consider television viewing on the Internet to be a replacement to traditional television program viewing.

81. As illustrated in Figure 17 below, the 2008 Decima Research study reported that although 50% of respondents felt their use of online video would stay the same over the coming year, one-third of respondents felt that their viewing of television programming on the Internet would increase in the next year.

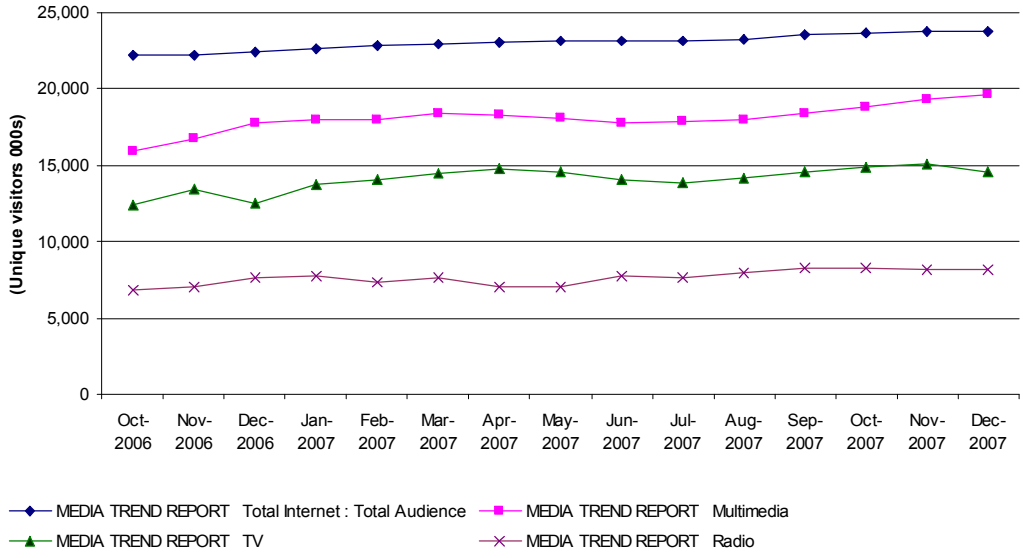
Figure 17: Viewing television programming on the Internet



Question: "Over the next year or two, do you expect that your use will increase, decrease, or remain the same for television programming available from the Internet? (n=1303)"
Source: Decima Research Survey, March 2008.

82. Figure 18 highlights the trend for various website indices over the past 15 months, according to comScore Media Metrix.

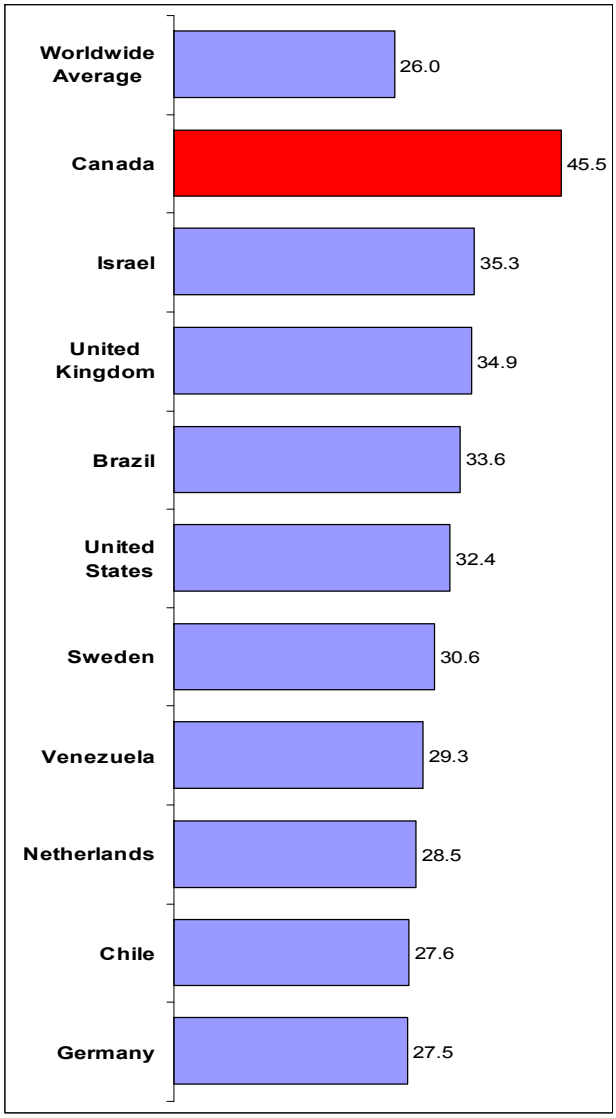
Figure 18: Online radio and television visits by Canadians[21]



[21] As defined by comScore Media Metrix. Total Unique Visitors (000): The estimated number of different individuals (in thousands) that visited any content of a website during the reporting period. Total Internet – all Internet sites; Multimedia – sites that contain video clips, audio clips or some other kind of interactive media such as shockwave/flash etc. (example: Tetesaclaques.tv); TV – TV station sites, TV guides and sites that are specific to television shows (examples: CBC.ca, CTV.ca); Radio – online radio stations and sites for Radio stations (examples: Icebergradio.com, Corus radio).

83. In 2008, comScore reported[22] that Canadians spent the greatest amount of time online when compared to people in several other countries. The worldwide average of time spent online in January 2008 was 26 hours per visitor, while Canadians spent on average 45.5 hours online in that month.

Figure 19: Country comparison (Time online, January 2008)



Source: comScore Media Metrix.

[22] comScore Media Metrix, January 2008.

E. Audio and video content online

84. Audio and video new media broadcasting content is becoming increasingly available and the amount continues to grow as Canadians demand more from the devices and services they adopt. Unconstrained by scarcity, this content will be offered by a growing number of traditional and non-traditional media sources domestically and from around the world.

Audio content

85. Broadly speaking, audio offerings on new media broadcasting platforms can be placed into three categories. The first consists of audio-streaming sites, including both traditional radio stations and satellite radio services simulcasting their signals online; the second, of Internet-only 'radio stations' which exist solely on digital platforms; and the third, of podcasts, which have emerged as a new form of downloadable radio.

86. Radio licensees have largely embraced Internet distribution. A large portion of these stations now offer streaming of their real-time signals, with additional features such as song display. In this model, online broadcasting tends to create incremental listening, as audiences are able to access the content on an alternative platform. For example, while Canadian in-vehicle radio listening is high, online availability can extend access to the workplace and elsewhere. Satellite radio providers are also able to take advantage of online distribution to extend coverage in-building, where the reception of satellite transmissions is challenging.

87. Internet-only radio stations, or audio services, are entities that do not hold a CRTC radio licence. These services operate using various business models, including reliance on sold advertising, such as banner ads and audio ads, as well as subscription-based services. Some of these services offer innovative services such as custom radio stations based on listeners' stated preferences.

88. Research data reveals growing podcasting activity. Podcasts – digital audio files created by professional and non-professional sources – vary widely, ranging from user-generated, spoken-word audio diaries to full radio programs created by professional rightsholders. These podcasts are available through automated subscription services, either directly from the producer/users' websites or through third-party aggregation services. Several Canadian radio licensees have begun offering podcasts in recent years.

89. A detailed analysis of the availability and use of music and other content on 100 randomly selected Canadian radio station websites that was prepared for the Canadian Association of Broadcasters demonstrates

widespread use by radio licensees of the Internet, as indicated in Table G below.

Table G: Radio station Internet presence

The radio station…	Number of stations (of 100 in the sample)
Has an active Internet site	89
Streams its radio broadcast signal	59
Displays banner ads	49
Streams selections of audio content	18
Makes available downloads that may contain music (e.g. podcasts)	16
Streams ads*	13
Has previews of music available	9
Sells products or subscriptions online	2

* Streamed ads are unique to the Internet. They are typically seen when the user selects a piece of video such as a news story. Ads that are part of the conventional radio signal are not included.

Source: Erin Research Inc., Music on the Internet: A Canadian Perspective. November 2006.

90. Table H lists the top audio-related websites according to comScore Media Metrix for February 2008.

Table H: Canadian unique visitors to top audio-related websites

Broadcaster-Related Domains	*Unique Visitors (000s)*	*Multimedia-Related Domains*	*Unique Visitors (000s)*
Corus Radio	1,679	ARTISTdirect Network	3,736
Rogers Media Radio	1,044	AOL Music	2,227
Astral Media Radio Interactif	602	Yahoo! Music	1,838
Newfoundland Capital Corporation	582	MTV Networks Music	1,757
Clear Channel Online	362	METROLYRICS.COM	1,536
SOUNDBEATRADIO.COM	206	Sony BMG Music Entertainment	1,025
Z1035.COM	196	MUCHMUSIC.COM	960
RYTHMEFM.COM	166	MSN Music	946
LIVE365.COM	146	Universal Music Group	895
CHUMFM.COM	141	Windowsmedia.com Music	834
THEMIX.COM	136	ULTIMATE-GUITAR.COM	804
NPR.ORG	130	Last.fm Ltd	651
AOL Radio	126	Warner Music	606
BBC UK Radio	123	LYRICSDOWNLOAD.COM	570
VIBE985.COM	87	BUZZNET.COM	558

Source: comScore Media Metrix, database extracts from February 2008.

Video content

91. The new media broadcasting environment has allowed Canadians, both as individuals and professional creators, to engage domestic and foreign audiences with new media broadcasting video offerings. Programs are offered in multiple ways, including as downloads, on demand, via real-time and time-shifted streams, as mobisodes and in other short forms.

92. A study conducted by Two Solitudes Consulting in January 2008 concerning the availability of content online demonstrates the extent to which Canadian broadcasters are participating in the new media industry by placing content on their websites.[23] Table I summarizes the characteristics of the broadcasting sites studied.

Table I: Online content comparison

		Canadian Broadcaster Websites	US Broadcaster Websites
Simulcasting	Canadian Programs	17%	0%
	American Programs	0%	6%
Full Episodes	Canadian programs	42%	13%
	American programs	19%	63%
Episode Clips	Canadian programs	61%	11%
	American programs	19%	56%
Ancillary Content (Webisodes and Interviews)	Canadian programs	44%	19%
	American programs	17%	94%
High-definition	Canadian programs	0%	0%
	American programs	0%	13%

[23]Two Solitudes Consulting, *Changing Channels,* January 2008 – www.crtc.gc.ca/eng/media/media3.htm.

93. This table shows that 42% of the Canadian content found on Canadian broadcaster websites was offered as full episodes, while 63% of American content was offered as full episodes on U.S. broadcaster websites.

94. An even more marked difference is evident between Canadian and US broadcasters in the creation of ancillary video content for their programs. For Canadian programs, only 44% of the programs examined had online-only video content, as compared to 94% of the American programs on US broadcaster websites.

95. The table below summarizes the findings of the Solutions Research Group concerning television broadcasters' presence on the Internet. These results were based on research conducted in January and February of 2007.[24]

Table J: Use and content of Canadian broadcaster television websites

Metric Examined	Percentage	Note
Television stations having websites	**100%**	**All stations surveyed had websites of some sort.**
Website containing audio or video content	**60%**	**Research focussed on music, but commented on video content as well.**
Continuous streaming of broadcast channel	**One Station**	**TVA's Le Canal Nouvelles streams its signal on its website.**
Web traffic		**Large networks draw the most unique visitors, but specialty channels draw more repeat visitors.**
Revenue generating content presence	**73%**	**A large portion of sites (67%) feature banner ads or ad links.**
Revenue actually generated	**68%**	**Amount is relatively small, mean monthly revenue for November 2006 reported at $60,159 ($112,297 excluding zero-revenue sites). 14% of sites reported revenues >$100k.**
Average streaming duration		**Streaming sessions on TV broadcaster websites average 4 minutes.**

Source: Solutions Research Group, March 2007.

[24] Solutions Research Group, *Use and Content of Canadian Broadcaster Websites*, March 2007.

96. Television and video sites offer both short and long-form programming, including user-generated content, trailers and interviews, and full episodes of programming. Table K, derived from comScore data, shows visits both to broadcaster-related domains and multimedia-related domains by Canadians in February 2008. Table L shows the number of Canadians watching streaming video from various sites in February 2008. Properties that use peer-to-peer (P2P) technology are not captured by this comScore data.

97. Consumption of content by Canadians on foreign and Canadian sites is likely different. While most of the sites listed below offer high-quality professional broadcasting content as a significant part of their appeal to visitors, much of it is in the form of clips, trailers, cast interviews and other short-form content. Generally, full episodes of programming can be found on the CTV and CBC sites, while access to such programming from US websites is generally blocked to Canadians to protect the respective rights markets. As such, many of the visits by Canadians to US sites are likely for clips and ancillary content related to the long-form content on Canadian television.

Table K: Canadian unique visitors to top video-related websites

Broadcaster-Related Domains	*Unique Visitors (000s)*	*Multimedia-Related Domains*	*Unique Visitors (000s)*
CBC.CA	4,337	YOUTUBE.COM	14,057
Astral Media	3,648	iTunes Software (App)	6,304
CTV	2,636	MSN Video	4,116
TV.COM	1,572	WindowsMedia	3,535
Corus Television	1,206	Real.com Network	3,061
Canoe TVA	1,019	DAILYMOTION.COM	1,971
MUCHMUSIC.COM	960	Metacafe	1,816
Discovery.com Sites	910	Break Media	1,573
CBS Television	908	TETESACLAQUES.TV	1,215
NBC Network	883	Heavy Networks	1,161
Disney Channel TV Network	736	VEOH.COM	1,089
Yahoo! TV	735	Shockwave.com Sites	1,062
World Wrestling Entertainment	719	STAGE6.COM	758
TQS.CA	715	MySpace TV	660
ABC.COM	679	Yahoo! Video	654

Source: comScore Media Metrix, database extracts from February 2008.

Table L: Canadian unique visitors (000s) of streaming video content

(February 2008)	Unique Viewers (000)
Google Sites	16,454
Microsoft Sites	7,279
Yahoo! Sites	3,689
Viacom Digital	3,344
FACEBOOK.COM	3,127
Fox Interactive Media	2,748
Time Warner Network	2,429
DAILYMOTION.COM	2,379
CTVglobemedia	2,143
Metacafe	1,710
Amazon Sites	1,562
Cyberpresse Sites	1,487
Sony Online	1,473
VEOH.COM	1,448
Canoe Network	1,367
Apple Inc.	1,295
CNET Networks	1,252
Disney Online	1,159
TOPTVBYTES.COM	1,125
Break	1,065
Astral Media	992
Canwest Interactive Sites	921

Source: comScore Video Metrix, February 2008.

98. A comparison of the data presented in the above tables demonstrates an interesting divergence between visits to sites with significant video streaming and actual consumption of broadcasting content. The CBC, for instance, is a very popular television-related destination for Canadians, but its broadcasting streams are not among the most popular.

99. The most popular video streams are of user-generated content that appears on sites such as YouTube (captured within the Google sites category), Facebook, Metacafe and others. There is also significant representation in the list of top streamers by retail sites such as Apple and Amazon. The top traditional television streaming sites are American, although CTV, Astral and Canwest are all among the most-viewed sites.

100. As reported in the 2007 Decima Research Survey, 37% of the respondents listed YouTube as the site they most often turn to for video content. The table below lists the other sites that received more than 3% of the responses.

Table M: Sources of online video content

Website Accessed	Percentage of Respondents
YouTube.com	37%
Sympatico.msn.ca	9%
CBC.ca	7%
CNN.com	7%
Limewire.com	5%
CTV.ca	5%
BBC.com	4%
Yahoo News	4%
Google News	4%
iTunes	3%
Google.com	3%

Question**:** "Which websites do you access most often to view or download video content?"
Source: Decima Research Survey, July 2007.

101. When comparing the total change in the number of unique visitors from February 2007 to February 2008, comScore Media Metrix and television and multimedia websites continue to report growth.

Table N: Top 10 gaining categories by Total Change in Unique Visitors.
February 2007 vs. February 2008
(Total Canada home, work and university)

Site Category*	Total Unique Visitors (000s)		Change in Total Unique Visitors	% Change
	Feb '07	Feb '08		
Total Canada Internet Audience	22,823	23,814	991	4.3%
Photo	11,183	15,896	4,713	42.1%
Reference	14,111	15,350	1,239	8.8%
Multimedia	18,011	19,249	1,238	6.9%
Search	21,435	22,737	1,302	6.1%
Career Services	9,035	9,349	314	3.5%
Entertainment News	10,279	10,613	334	3.2%
Television	14,020	14,422	402	2.9%

*as defined by comScore

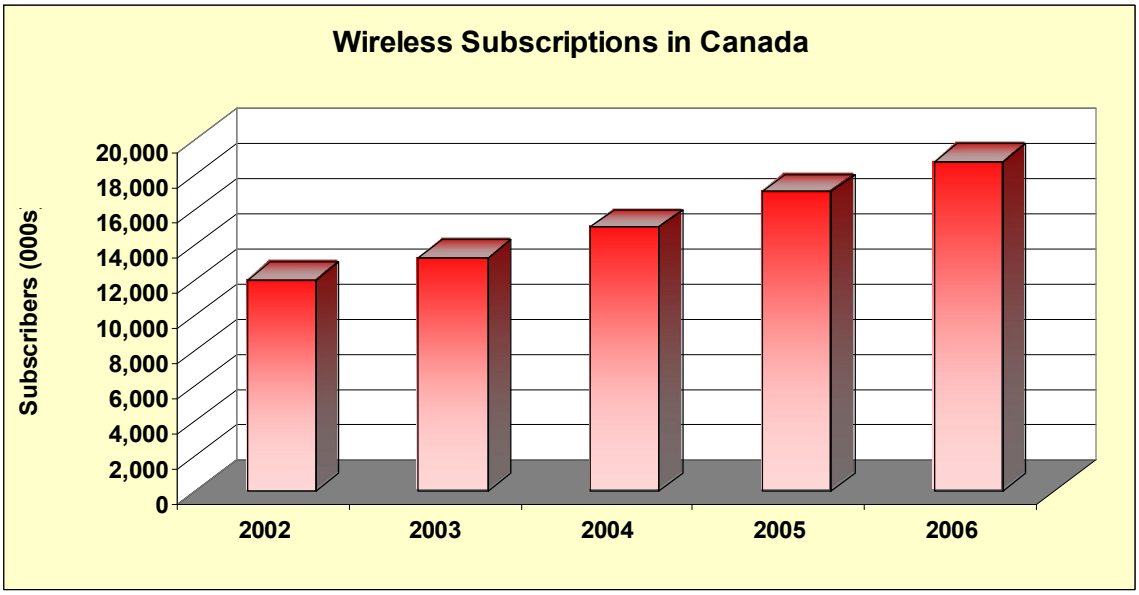
Source: comScore Media Metrix.

F. Mobile market

102. While fixed broadband access has largely become mainstream in Canada, mobile access to broadcasting content is still in its infancy. The overall penetration of wireless services in Canada has grown steadily since the introduction of mobile telephony. However, data services other than e-mail and messaging have been slow to see mass adoption.

103. Figure 20 shows the growth in mobile subscriptions in Canada over the past 6 years, as reported in the *2006 CRTC Telecommunications Monitoring Report*.

Figure 20: Wireless subscriptions in Canada



Source: CRTC 2006 Telecommunications Monitoring Report

104. The data demonstrates robust growth over a five-year period of mobile subscriptions. Overall, wireless subscriptions have grown at a CAGR of 11.8%.

105. Data, including not only mobile e-mail services and instant messaging but also entertainment content such as streaming and downloadable broadcasting content, is an increasingly important component of the carriers' revenue streams. Table O lists the revenues by major component for wireless services from 2002 to 2006.

Table O: Mobile activities

Revenue Component	2002	2003	2004	2005	2006
Voice	76.3%	78.8%	76.5%	74.5%	72.0%
Data and Other	8.8%	6.8%	10.0%	11.8%	15.5%
Long Distance	7.3%	7.0%	7.0%	7.0%	7.0%
Terminal (handset)	5.5%	5.8%	5.5%	6.0%	4.8%
Paging	2.3%	1.8%	1.0%	0.8%	0.8%

Source: 2007 CRTC Telecommunications Monitoring Report.

106. Research data suggests that consumer adoption of access to mobile broadcasting content is still nascent. While the capacity to download and stream audio and audiovisual broadcasting content has become evident with the introduction of multimedia handsets and very fast third-generation mobile networks, there is little evidence that this platform has currently garnered the same mainstream engagement as personal computers. Multiple parties indicated a strong belief that mobile

entertainment is poised to become a more important part of the broadcasting environment, particularly when lower cost point-to-multipoint mobile broadcasting technologies (DMV, DMVH) are introduced.

107. Further, stakeholders have suggested that mobile platforms offer a safer distribution platform for content from the perspective of protecting rightsholders from unauthorized use. Current models for mobile content rely on aggregation and strict control over access to the material by the carriers. There is a growing industry consensus, however, that mobile platforms will begin to resemble more closely the fixed Internet, featuring open protocols and networks allowing access to content without navigating carrier gateways. The introduction of new handsets featuring commercial web browsers able to access Internet content including web pages and Internet applications points the way to an acceleration of this trend.

Mobile consumption patterns

108. As outlined earlier, fewer Canadians are using mobile devices to access broadcasting and other interactive content than are engaged with fixed online platforms to access entertainment and news content. In the short term, it is conceivable that the services offered on mobile devices will begin to resemble traditional Internet access, as improvements are made to the networks as well as to handsets. A segment of the most recent generation of handsets now available have Wi-Fi capabilities, allowing users to connect to wireless hotspots with their mobile devices.

109. The 2007 CIP2 survey questioned Canadian mobile users with respect to mobile device usage. Beyond traditional telephone usage, respondents reported performing many activities, including taking photos, playing games, and watching video content. These activities are clearly more popular among the younger demographics. The following table illustrates some the activities reported by respondents in the CIP2 survey.

Table P: Mobile device usage
(Percentage of respondents reporting activity)

	Total	12-17	18-29	30-44	45-59	60+
To send or receive text messages	44.0	76.5	76.1	48.1	28.4	10.2
To take pictures	36.3	73.5	54.2	37.4	27.1	13.1
To download ringtones	18.8	48.7	34.7	16.3	9.6	6.8
To play games	14.4	48.3	23.9	13.2	8.6	1.0
To surf the web or send emails	13.4	27.1	16.9	15.8	10.2	4.4
To listen to or download music	9.7	28.0	18.5	8.2	4.8	2.7
To watch video, TV or other content	2.9	7.6	3.9	1.7	2.7	2.3

Question: "Besides making phone calls, do you use your cell phone…"
Source: CIP2, 2007.

Canadian content on mobile platforms

110. Although consumer adoption of mobile broadcasting content is in the early stages, a variety of broadcasting content is available from licensed broadcasters and new content providers alike. Audiences can choose to subscribe to some services, while others are pay-per-use. For example, streaming television services are often offered as flat-rate subscription services, while viewing clips and downloading content is provided on a pay-per-use basis.

111. Canadian content is available on mobile TV offerings, video-on-demand (VOD) offerings, as well as radio offerings on their mobile platforms. A review of offerings available in April 2008 suggests that Rogers Communications, Bell Canada and Telus Communications offer subscribers many choices, and as highlighted in the following table, a certain amount of video content is Canadian. Detailed tables of the mobile offerings can be found in Appendix B.

Table Q: Mobile offerings April 2008
(Percentage of Content that is Canadian)

	Mobile Offerings,		
	Mobile TV (% of total shows offered)	**Video-On-Demand (% of channels offered)**	**Radio (% of channels offered)**
Bell Canada	42%	52%	22%
Rogers Communications	57%	35%	15%
Telus Communications	45%	Not available	14%

Source: Company websites, April 2008.

G. New media technology enablers

112. The Future Environment Report explored many technological developments. However, the pace of change in the new media environment has led to an accelerated rate of innovation. Technology enablers not detailed in the Future Environment Report include geolocation, deep packet inspection (DPI) and digital watermarking, each of which is playing an increasingly important role in the new media broadcasting environment.

113. Geolocation (also known as geoblocking, or geofencing) refers to the practice of restricting the distribution of a product such as a video file over the Internet based upon the geographic location of the recipient. Program rightsholders generally license the distribution of material on a territory-by-territory basis and use geolocation to determine the geographical location of an Internet user to ensure that existing rights agreements can be respected.

114. Geolocation databases are maintained by a number of companies, which employ publicly available data such as Internet registries of IP addresses and domain names, user-provided or application-provided data from online order forms, inference from time delay or routing information, and network reconnaissance techniques, to ascertain the geographic location of an Internet user. The more information that is available, the greater the confidence that can be had in the determined location. The reliability of this data is advertised in the form of confidence factors which approach 100% for country-level data but diminish for smaller areas such as postal codes. Recently, the new media broadcasting industry has accepted the reliability of country-level data as sufficient for real-time, commercial applications.

115. Nevertheless, it remains possible for certain users to circumvent geolocation limits. Methods of doing so include the use of dial-up accounts, remote sessions, virtual private networking (VPN) and anonymous proxies, all of which make it appear that one's Internet traffic originates from another geographic location. These methods are not always foolproof as other means of detecting location may be employed. Furthermore, the circumvention techniques may impair the user experience.

116. Technologies are being deployed that could be used for traffic identification. These include DPI, a form of packet detection and filtering that examines the packet header and payload as it passes an inspection point, and digital watermarking, a technique whereby supplementary visible or invisible information is added to digital still images or audio/video signals.

117. DPI can examine or consider a number of factors, including matches to pre-defined criteria, to classify each packet. Based on the classification, a packet can be redirected, marked/tagged, blocked, rate-limited or reported for the purpose of collecting statistical information. DPI devices can also identify packet flows, which allows the network to take action based on accumulated flow information.

118. DPI allows service providers to identify traffic flows such as e-mail, web browsing, streaming music and video, VoIP, and software downloads. These applications have different requirements in terms of bandwidth, sensitivity to delay, and sensitivity to jitter. In turn, DPI allows ISPs to dynamically allocate bandwidth according to the type of traffic that is passing through their networks. Thus, a higher priority can be allocated to a VoIP call versus web browsing.

119. A digital watermark can be used to identify the copyright holder as well as the purchaser of the particular copy of the material. The technique takes its name from the watermarking of paper or money as a security measure. While the addition of invisible watermarks to a signal does not restrict that signal's use, it does provide a mechanism to link the material with the original copyright holder.

120. Digital watermarking is of particular interest to new media companies seeking to manage and protect their copyright content as it is distributed across the Internet. By allowing the identification of the content that is being shared, viewed, mashed up or accessed on individual websites, watermarking will enable these companies to better control their content and presumably foster the development of new revenue business models.

H. Business models

121. A variety of new media broadcasting business models continue to evolve for radio and television broadcasters, content providers, and distributors. Various revenue-generating models are evolving to capture an increasing amount of advertising revenues. A small number of subscription services and PPV offerings are available.

122. Traditional radio broadcasters are involved in digital media through their online presence in the form of websites. Research data clearly indicates that many radio broadcasters view having a website as an important part of their business plans. Further, where there is no strong local television or daily newspaper presence, some radio stations are seizing an opportunity to expand their role as providers of timely audio and audiovisual local content.

123. Television broadcasters are increasingly seeking to buy television rights and Internet rights as a bundle. Presently, a significant amount of

professionally produced content found online has been repurposed from content developed for distribution on traditional platforms. It is expected that the continued investment in Canadian content for traditional television broadcast will nourish Canadian new media broadcasting content.

124. Content providers can exploit the interactivity of new platforms to strengthen loyalty to programs and artists and to build upon the capabilities of new platforms to deliver more granular audience data that can generate higher advertising revenues through targeting. By extending the reach of these providers beyond what was possible in the traditional broadcast environment, these new platforms have provided new opportunities to generate global sales and brand recognition.

125. The explosion of broadcasting activity online and on alternative platforms such as mobile devices cannot be easily classified according to a strict taxonomy of business models. A rich variety of efforts to develop audio- and audiovisual-centric models has emerged with both clear and subtle differences between them.

126. Several key differences are apparent, among the many models examined by the New Media Project Initiative and highlighted by stakeholders through consultations including platform, revenue generation, content source, distribution, linear and on-demand content, and aggregation or direct-to-consumer distribution.

127. The emergence of new platforms has created potential new revenue streams for broadcasting entities. These include:

- distribution on Internet platforms, whether through standalone applications or by leveraging commonly available media plug-ins for browsers;
- distribution of content via mobile phone protocols such as WAP;
- alternative device distribution such as by game consoles and set-top boxes using Internet connections;
- distribution of content using the Internet for loading – either via the PC or directly – onto portable devices such as digital audio players and e-books; and
- distribution of content on a combination of platforms, including for traditional radio and television.

128. Several methods to generate revenue are emerging. These include: advertising-supported streaming content, with inventory sold directly by

producers or aggregators or by employing third-party advertising networks in a revenue-sharing arrangement; subscription-driven streaming and downloaded content; purchased or freely distributed content that is downloaded permanently by the customers; and rented content with downloads that expire using digital rights management (DRM) technology.

129. Audio and audiovisual content is being created by a wide variety of parties, using a variety of business models. These include: professional content created by entities that exist primarily for that purpose; user-generated content, often created as a form of personal expression and not primarily for monetary gain; and a hybrid category of content that ranges between these two, often called semi-professional.

130. Distribution of new media broadcasting content is not without cost, and bandwidth charges for storing and serving can be significant, especially when large quantities of video content are involved. Distribution models tend to be either a single client-server relationship, in which the user obtains the content directly from the party hosting it, or P2P distribution, in which the entity making the content available seeds it among many users. In turn, the user receives the content from a combination of servers and/or multiple peers within a P2P network.

131. New media broadcasting content can be either linear, available to many users at the same time but with limitations on the degree of time-shifting available (for example, by multicasting a live event or by simulcasting a traditional broadcasting signal), or on-demand giving users control over when they start, stop and pause the content.

132. A key difference among activities in the new media broadcasting environment appears to be the difference between aggregation or direct distribution. Content producers may choose to distribute their programming directly to users without licensing it to a third party. For example, a television or web content producer may create a website or RSS subscription feed to allow users to download or stream the content, or third-party aggregators may build content portals, licensing content from creators, as in traditional broadcasting models. The terms of the licensing could include paying nothing for the content (as a user-generated content site inviting users to upload audio and audiovisual programming might do) or paying a licensing fee to the producer in return for the right to distribute or broadcast the content.

133. Innovation is occuring around the monetization of a wide variety of traditional and non-traditional broadcasting content types, including long-form programming, short-form programming, and ancillary content including promotional content.

134. There are, however, significant costs for content providers and broadcasters with respect to acquiring and clearing program rights for new media platforms, including costs related to multiple format requirements, digital rights management protection, ad insertion and streaming, among others. Content aggregators face many of these same challenges.

135. ISP and mobile service providers have the ability to generate additional revenue streams from tiered Internet service offerings, usage charges and quality of service agreements with content providers.

136. The various business models cited above exemplify the complexity of the environment and the numerous opportunities and the challenges therein with respect to the creation and distribution of new media broadcasting content.

The subsidy of Canadian content

137. Several forms of subsidy programs exist for the development of Canadian content. In the regulated sphere of traditional broadcasting, BDUs contribute a portion of their revenues to the Canadian Television Fund (CTF) and independent production funds. Radio undertakings contribute to Canadian content development (CCD). Further, traditional television broadcasters invest in Canadian content to meet their various exhibition and expenditure commitments.

138. While the majority of the 5% BDU contribution goes towards the CTF, larger terrestrial BDUs can allocate up to 1.5% of their contribution to their community channel. As displayed in the Tables R and S, BDU contributions to programming funds and community channels continue to grow annually.

Table R: Contributions to programming funds ($000,000)

	CTF					Independent Funds					Total CTF & Other Funds				
	‘02	‘03	‘04	‘05	‘06	‘02	‘03	‘04	‘05	‘06	‘02	‘03	‘04	‘05	‘06
Class 1 BDUs	66	68	68	70	77	16	16	17	16	19	82	84	85	85	95
DTH, MDS & SRDU	38	47	54	57	61	10	12	13	14	15	47	59	67	71	75
Total	103	115	122	126	137	26	29	30	30	33	129	143	152	156	171

Notes: Based on 31 August of each year. An internal review resulted in a reclassification of some of the contributions from 2001-2005. Minor variances are due to rounding.
Source: CRTC financial database.

Table S: Total community channel expenses for Class 1 cable ($000,000)

	2002	2003	2004	2005	2006
Class 1 BDUs	86	81	88	94	101

Notes: Based on 31 August of each year. 2001 - 2005 figures have been updated to reflect current aggregate 31 August results. Minor variances are due to rounding. Class 1 BDUs, must comply with Section 29 of the *Broadcasting Distribution Regulations*, which requires them to pay a contribution of 5% of their gross revenues derived from broadcasting activities to local expression and Canadian programming. The eligible amount for local expression is explained in *Community Channel Policy*, Public Notice CRTC 1991-59, 5 June 1991, and includes the depreciation relating to direct expenditures.
Source: CRTC financial database.

139. Tax incentives for various film and video productions exist at the national and provincial levels. The Canadian Film or Video Production Tax Credit and Canadian Film or Video Production Services Tax Credit provide federal tax credits, while all ten provinces in addition to the Yukon Territory offer provincial or territorial tax credits for the production of Canadian content on traditional broadcasting platforms. British Columbia, Manitoba, Ontario, Quebec, Nova Scotia and Prince Edward Island also offer provincial tax incentives for the creation of new/digital media. No federal tax incentives currently exist for the creation of new/digital media.

140. Independent production funds for new/digital media, while minimal in comparison to funding for Canadian content on traditional platforms, are contributing to the development of Canadian content on new media platforms. Such funds include (all amounts are approximate):

- Bell Broadcast and New Media Fund ($10 million annually);
- Telefilm Canada's Canada New Media Fund ($14.5 million annually);
- OMDC Interactive Digital Media Fund ($870,000 in 07/08);
- Canadian Film Centre's Telus Innovation Fund ($300,000 annually); and
- Fonds Quebecor ($3.5 million annually).

Advertising

141. Advertisers have embraced new media broadcasting marketing strategies. Research indicates that considerable attention is now being paid to the rapidly growing share of advertising revenue accruing to new media platforms and the impact on the traditional broadcasting sector.

142. The Interactive Advertising Bureau of Canada's (IAB Canada) yearly survey of advertising spending on the Internet demonstrated that in 2006

total spending in Canada on online advertising surpassed $1 billion.[25] The figure below presents the growth as tracked by IAB Canada.

Table T: Growth in Canadian online advertising revenues

Year	Revenue	% Increase
2007 (forecast)	$1,337 Million	32%
2006 (actual)	$1,010 Million	80%
2005 (actual)	$562 Million	54%
2004 (actual)	$363 Million	54%
2003 (actual)	$237 Million	37%
2002 (actual)	$176 Million	

Source: Interactive Advertising Bureau (IAB) of Canada.

143. In 2006, the Internet garnered the seventh largest share of advertising spending, ahead of only magazines and out-of-home (billboards) advertising. However, the Internet clearly has the greatest momentum. Radio advertising has remained virtually unchanged in the past ten years, with a consistent 10% market share. Television has also shown remarkable resiliency, retaining a 24% market share over each of the ten years.

144. As detailed below, from 2002 to 2006, total Canadian advertising revenues across all media sectors increased from $10.728 billion to $13.673 billion, for a CAGR of 6.3%. Internet advertising revenues top the growth for this period at 54.8%. The CAGR for television and radio advertising revenues for the period was 6.5% and 5.7% respectively.

Table U: Canadian advertising revenues (all media sectors, 2002 - 2006)

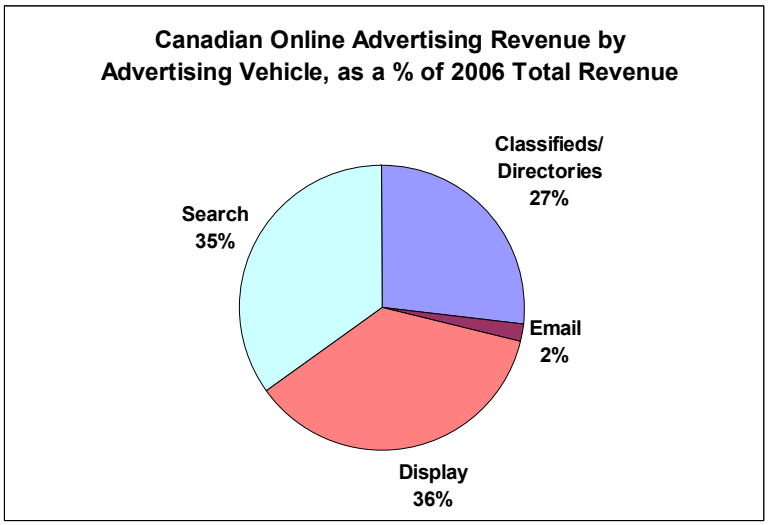
($ Millions)	2002	2004	2006	CAGR
Total	10,728	12,069	13,673	6.3%
Internet	176	364	1,010	54.8%
Television	2,593	2,963	3,241	5.7%
Radio	1,080	1,209	1,388	6.5%
Newspaper	2,510	2,611	2,688	1.7%
Cat/Direct Mail	1,285	1,490	1,608	5.8%
Magazine	558	647	682	5.1%
Yellow Pages	1,060	1,168	1,264	4.5%
Out-of-Home	273	303	370	7.9%
Other	1,192	1,314	1,422	4.5%

Source: Television Bureau of Canada (TVB).

[25] IAB Canada.- http://www.iabcanada.com/reports/IABCanada2006-07COA_report.pdf

145. In addition to tracking the growth of various media, IAB Canada has also published its analysis of how online advertising dollars are being spent, as demonstrated in the figure below. Much of the revenue accruing to the Internet is non-broadcasting related, such as search and classified. Evidence suggests that new media broadcasting will become an increasingly important destination for advertising dollars as consumer usage grows.

Figure 21: Online advertising revenue breakdown



Source: IAB Canada.

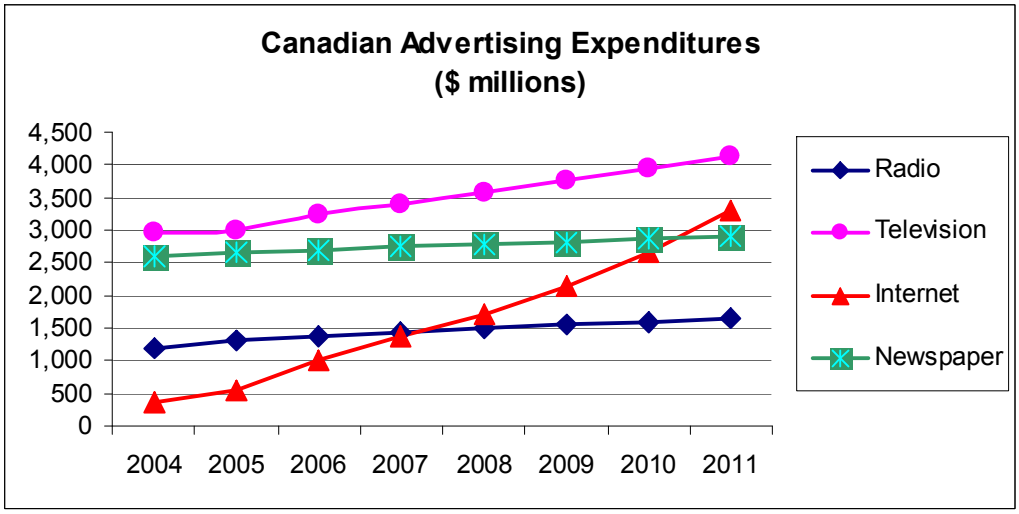
146. As reported by Two Solitudes Consulting in 2008,[26] pre-roll advertising[27] is becoming increasingly common among new media broadcasters. The study indicates that of those Canadian broadcasters that had video with pre-roll advertising, 45% had pre-roll ads for external advertisers, compared to 89% of US broadcasters. In contrast, 73% of Canadian broadcasters used pre-roll for internal promotion, while only 22% of US broadcasters utilized pre-roll for this activity. Regardless of whether the ads were internal promotions or corporate ads, 78% of US pre-rolls had click through capability, while the corresponding Canadian figure was 36%.

147. Internet advertising expenditures were projected by IAB Canada to grow an additional 32% through 2007. At the time of printing, actual 2007 advertising expenditures were not available. Various industry forecasts project that Internet advertising expenditures will reach between $1.9 and $3.3 billion by 2011. The Canadian Marketing Association's 2007 publication *Marketing's Contribution of the Canadian Economy* forecasts that Internet advertising expenditures will surpass radio

[26] Two Solitudes Consulting, *Changing Channels*, January 2008 - www.crtc.gc.ca/eng/media/media3.htm.
[27] Pre-roll ads are typically either 15 or 30 second long advertisements that may precede the online viewing of either full-episode or short-form content.

advertising revenues in 2010, placing second to television advertising revenues by 2011.

Figure 22: **Canadian advertising expenditures**



Source: Canadian Marketing Association: Marketing's Contribution of the Canadian Economy, 2007.

148. The growth of Internet advertising revenues, of which new media broadcasting is a component, represents an opportunity for content providers.

149. In April 2008, The Convergence Consulting Group released *The Battle for the North American Coach Potato: New Challenges & Opportunities in the Content Market*.[28] In this report, Canadian traditional television advertising revenues are forecast to decline starting in 2009 (from $2.4 billion in 2007 to $2.25 billion in 2011), while broadcasters can expect online advertising gains forecast at $83 million.

150. According to the report, Canadian specialty television networks can expect online advertising revenue gains of $68 million and traditional specialty network television advertising gains of $400 million.

151. The report estimates television content players' (including Canwest, CBC, Corus, CTVglobemedia, and Quebecor) online TV-related advertising revenue represented 1% of total TV advertising revenue in 2007 ($40 million) and will grow to 5% ($191 million) in 2011, suggesting online distribution is complementary to other forms of distribution for the television content players.

[28] The Convergence Consulting Group Ltd. - http://www.convergenceonline.com/reportB.html.

Section III: Issues

A. Overview

152. Stakeholders generally express optimism that the new media broadcasting environment holds the promise of new ways to engage audiences, build globally competitive businesses, and provide new avenues for national, regional and local content choices for Canadians. Taking advantage of these opportunities will, in the view of these stakeholders, require leadership and innovation.

153. Stakeholders consulted during the New Media Project Initiative expressed significant differences of opinion as to whether regulatory intervention in support of Canadian new media broadcasting content is either warranted or necessary.

154. Some stakeholders have suggested that the New Media Exemption Orders have been effective. They point to the high level of innovation in the new media broadcasting environment, evolving business models, and the increased adoption of new technologies and devices by Canadians in an unregulated environment, as supporting the continued appropriateness of the New Media Exemption Orders.

155. Canadian distributors generally oppose regulatory intervention in new media broadcasting. They believe intervention is neither feasible given the open architecture of the Internet, nor appropriate given Canadians' use and expectations of the medium, nor necessary given their view that Canadian new media environment is flourishing. Distributors question the utility of subsidies and structural measures in support of Canadian content in the open unrestricted new media broadcasting environment. ISPs further assert that increased regulatory burden hinders their ability to meet market demands for increased network capacity and capabilities.

156. Canadian broadcasters and new media content providers differ in their views of regulatory intervention in new media broadcasting. Most question the feasibility and appropriateness of traditional regulatory approaches based on restrictive licensing. Many, however, believe that support and incentives for at least some forms of Canadian new media broadcasting content are warranted. Others question the necessity for any regulatory intervention at this time.

157. The record of recent reviews of the Commission's broadcasting regulatory policies with respect to commercial radio undertakings, the regulatory framework for over-the-air television, the licensing framework for pay, specialty and VOD services, and the regulatory framework for BDUs contain calls by stakeholders for regulatory changes to adapt to

new marketplace realities that are in part the result of audience fragmentation due to new media broadcasting.

158. In the Future Environment Report, the Commission stated:

> It would…seem unrealistic for policy makers to expect that new audio-visual technologies will continue to advance all of the Act's objectives, particularly those in the cultural area, without public policy intervention. As a consequence, policy makers will either be increasingly called upon to choose as greater priorities those objectives that new audio-visual technologies more naturally advance, or find new ways to intervene in support of the remaining objectives.

159. Cultural groups, including collectives, unions and guilds, urge regulatory and other government action in support of Canadian new media broadcasting content. They generally assert that the often-cited challenges to Internet regulation are overstated. They are concerned that without intervention, the funding, exhibition, promotion and consumption of high-quality Canadian content demanded by Canadians will be impaired.

160. Some stakeholders expressed concerns about access issues, such as network capacity, traffic prioritization, including quality of service delivery, and access to mobile platforms.

161. The next section provides an outline of possible measures, as suggested by various stakeholders, to support the creation, promotion and distribution of Canadian new media broadcasting content. The Commission takes no position on the merits of these proposals.

B. Canadian new media broadcasting content

Synopsis

162. Analysis indicates that professionally produced new media broadcasting content available online is, for the most part, repurposed from a form intended to be exhibited on television and radio platforms. Traditional broadcasters use new media to promote their programs, allowing viewers to "catch up" on missed episodes and providing additional information about the programs.

163. Some content providers are increasingly relying on both broadcast and new media exhibition and consumption for business viability; therefore, content is increasingly created and packaged for multi-platform distribution.

164. Canadian content produced initially for new media exhibition and consumption is not common. Canadian producers have realized limited success in this category, with content ranging from inexpensive shortform content to more professionally produced high-quality drama. Early examples of new media to television crossover are emerging.

165. Some stakeholders suggest that any Canadian content, professional or otherwise, should be considered as assisting in the achievement of the broadcasting policy objectives of the Act.

166. Some broadcasters have noted that significant new copyright fees are being applied to new media broadcasting. For example, new tariffs are under consideration or have been established for ringtones, ephemeral uses and digital recording media. These stakeholders have noted the potential hurdle to innovation and customer adoption these copyright-related fees have created. Creative groups have noted the potential for digital distribution to create new revenue streams and contribute to the viability of a diversity of Canadian content.

Defining Canadian new media broadcasting content and other metrics

167. The definition of Canadian new media broadcasting content – and more specifically what type or category of new media broadcasting content should be the central preoccupation of the Commission – is a question that resonates with a large number of stakeholders.

168. The Act suggests that programming provided by the Canadian broadcasting system should "…be varied and comprehensive, providing a balance of information, enlightenment and entertainment for men, women and children of all ages, interests and tastes."[29]

169. In the Future Environment Report, the Commission identified three broad new media broadcasting content categories: user-generated content; relatively inexpensive commercial content; and high-quality, relatively expensive programming.

170. Some stakeholders have suggested that a definition of new media broadcasting content should be broad. In their view, all audio-visual and audio content that reaches end users via the Internet and mobile platforms should be contemplated as being within the scope of new media broadcasting. These parties suggest that the technological neutrality of the Act and its definitions require an expansive view of what constitutes new media broadcasting. These parties contend that all distribution methods, including downloading and streaming and all variants of those, whether from a single source or many sources (as in a P2P model), must be included in a definition of new media broadcasting.

[29] *Broadcasting Act*, 1991, Section 3(1)(i)(i).

171. Other parties have raised concerns that a broad definition of new media broadcasting may have the effect of capturing activities not intended by policy-makers to fall within the broadcasting realm. These stakeholders note that the distribution of retail goods in digital form, for instance, should not be considered broadcasting for the purposes of achieving the Act's objectives, as, for example, the purchase or rental of movies and music tracks is not. These parties maintain that the definitional challenges of differentiating between retail and broadcasting services, downloading and streaming, and temporary and permanent copies require careful consideration.

172. In addition, analyzing and understanding the emerging new media broadcasting environment will require new measurement systems and methodologies. Stakeholders generally agree that there is a requirement for additional and more precise data to describe this dynamic landscape. For example, the impact of greater online advertising revenues on traditional broadcasting entities, changes in broadcasting consumption, and the greater degree of granularity with respect to the availability and distribution of new media broadcasting content are not currently well understood. Data related to these trends is needed for stakeholders, including the Commission, to obtain an accurate picture of the challenges, opportunities and metrics for success for Canadian content in the new media broadcasting environment.

Support for Canadian new media broadcasting content

173. New media broadcasting content, as defined in the Commission's Future Environment Report, is grouped into three broad categories: user-generated content, relatively inexpensive commercial content and high-quality expensive content.

174. Some stakeholders are of the view that user-generated Canadian content is an important outlet for cultural expression. These commentators, including those in the public interest and academic sectors, assert that any Canadian content, regardless of its production category, that is propelled into the global environment via new media platforms is valid Canadian content that contributes to the broadcasting policy objectives of the Act.

175. Many broadcasters and broadcaster-affiliated sites, from small specialty channels to the CBC, encourage user-generated content both to create a climate of community inclusiveness and to provide a channel for material that may either shape or be part of audio and audiovisual programming intended for broadcast.

176. Certain stakeholders, particularly in the French-language markets, stressed the importance of creating Canadian-owned and -controlled sites

that invite and support Canadian user-generated content. Other stakeholders suggested that it was neither necessary nor realistic to create Canadian user-generated sites to compete with mass-appeal sites with international presence and major financial backing.

177. Professional but relatively inexpensive commercial content has the potential to be a significant form of cultural expression, according to some stakeholders. However, this category faces serious competition from foreign providers. Some stakeholders have suggested that policy-driven financial support is required to compete. Others argue that relatively inexpensive commercial content should be sustainable without regulatory intervention and does not require further examination.

178. While an increasing amount of high-quality, professionally produced Canadian content is being made available on new media broadcasting platforms, some stakeholders indicate that such exhibition typically generates minimal additional revenue to traditional broadcast distribution. Nor, stakeholders note, is there any significant private capital available in Canada to finance such content.

179. There is little expectation by stakeholders that business models will emerge wherein new media broadcasting distribution revenues can significantly replace traditional broadcast distribution revenues in the near to medium term. A major concern for broadcasters and cultural groups, therefore, is that any economic impact of the Internet on traditional broadcasting, such as a large-scale shift of audiences to online consumption of programming outside the regulated broadcasting system, could jeopardize this already economically challenged programming.

180. Cultural groups are seeking new and increased subsidies that can support high-quality new media broadcasting programming. For many such groups, regulatory support for Canadian new media broadcasting content should be focused on, if not limited to, drama and other expensive high-quality content.

181. Some broadcasters are willing to support new subsidies so long as these do not increase their regulatory burden and as such measures are implemented fairly among the various elements of the broadcasting system. Distributors, as potential sources of such subsidy, and some broadcasters are beginning to question the public policy rationale for support of some programming genres such as high-quality drama, which are seen as unsustainable without significant subsidy. They suggest that such content should be purview of the CBC and other government organizations such as Telefilm Canada.

182. Policy-makers have made preliminary steps to encourage and make funding available to new media. For example, the $10 million per year

Bell Broadcast and New Media Fund was the result of the benefits package proposed by BCE Inc. in the course of its acquisition of CTV and continues to receive contribution revenue from Bell ExpressVu. Nine years ago, Telefilm Canada established its first new media funding envelope, an initiative that as of June 2007 was renewed by a grant of $29 million from the federal government over two years.

183. Direct financial support in various forms, including grants, loans, and other financial instruments, is seen as preferable by some stakeholders to traditional regulation in the form of programming obligations stemming from licensing or regulatory subsidies.

184. In addition, proposals which suggested amendments to the *Income Tax Act* and increased direct government programming subsidy were raised, but fall outside the Commission's jurisdiction.

185. Supporters of increased new media subsidy also believe that measures to date have been insufficient to ensure that Canadian new media broadcasting content, and in particular high-quality broadcasting content, is a sustainable and predominant part of Canada's new media mix.

186. Three general types of funding mechanisms have been proposed by stakeholders:

- new or increased direct government subsidy programs,
- the introduction of an ISP contribution regime analogous to the current 5% BDU contribution in traditional broadcasting, and
- the introduction of various forms of expenditure incentives.

Government subsidy programs

187. The need for greater government funding for Canadian new media broadcasting content and/or for multi-platform Canadian content has been suggested by various stakeholders. New media producers, for example, have advocated for greater stability and funding increases to Telefilm Canada's Canada New Media Fund.

Mandatory contribution regimes

188. In stakeholder consultations and through other Commission proceedings, a number of cultural and producer groups have suggested requiring direct financial contributions from content aggregators, ISPs and/or portals operating in Canada. In the Future Environment process, for example, some stakeholders recommended the implementation of a contribution mechanism for exempt new media broadcasting services, generally in the form of a percentage of revenue model akin to that which governs BDU

contributions to the CTF. Given that new media broadcasting platforms increasingly provide broadcasting services analogous to television and radio, proponents of such measures argue that the introduction of some kind of contribution mechanism is warranted. The Act, they note, requires all elements of the Canadian broadcasting system to contribute to its broadcasting policy objectives.

189. While, in theory, such a contribution regime could be imposed at a number of different points in the new media value chain, proponents suggest that it could most effectively be introduced at the distribution level. They argued that Canadian-owned and -controlled ISPs and mobile operators own essential infrastructure, are relatively limited in number, and are the principle distribution platform by which Canadians access new media broadcasting content. A funding mechanism based on contributions received directly from these providers is viewed by proponents as administratively easier and financially more stable than a mechanism based on funding from individual content providers and content aggregators.

190. Some stakeholders have argued that existing subsidies for traditional television production should be maintained. These subsidies support the creation of content that will typically migrate to new media platforms. Diluting already scarce funding, producers suggest, will result in an overall lower level of Canadian content production and therefore subsidy funding for new media broadcasting production should only be derived from new revenue sources.

191. Further, some stakeholders also raised the issue of subsidizing content created expressly for new media broadcasting platforms. Most new media broadcasting content funding is linked to traditional broadcasting content. Many independent producers and content providers consider that there is a substantial opportunity for high-quality new media broadcasting content created by new and incumbent producers if sufficient funding is available.

192. One specific proposal for an ISP contribution model has been made based on the suggestion that 50% of traffic on the Internet in Canada is broadcasting content. A 5% contribution applicable to the proportion of ISP traffic that is broadcasting, as in the case of the BDU regime, would result in a contribution of 2.5% of ISP revenues.

193. ISPs oppose both the conceptual and jurisdictional grounds for considering ISPs as BDUs upon which proposals for contributions are based. For example, ISPs argue that, unlike BDUs, they do not have a direct business relationship with content providers. In addition, ISPs argue that they do not exercise similar control over the delivery of content as BDUs.

New media expenditure incentives

194. A number of stakeholders have proposed that some form of expenditure incentives be implemented for new media broadcasting.

195. Conventional radio and television licensees do not currently have explicit Canadian program expenditure (CPE) requirements. These are, however, required of specialty and pay service licensees. In addition, many licensees have other forms of expenditure requirements, including benefits arising from ownership transactions, baseline expenditures,[30] and BDU and CCD contributions.

196. One expenditure incentive suggested by proponents of a contribution regime would be a broadcaster-based measure permitting the diversion of a portion of pay and specialty service CPE commitments to new media broadcasting.

197. According to proponents, expenditure incentives would provide the flexibility necessary to ensure funds could be directed to high-priority areas, such as high-quality professional new media broadcasting content and the establishment of new media services exhibiting Canadian content.

198. Many producers and cultural groups support the concept of such incentives but, for the most part, only when directed to incremental Canadian new media broadcasting content. They seek safeguards to ensure that any such funding supports independent producers and does not result in reductions in funding for other high-quality content.

Other forms of incentives

199. In addition to expenditure-based incentives, it is possible to envisage other potential incentives with respect to Canadian new media broadcasting content, including incentives targeting its exhibition and promotion. Some stakeholders suggested that broadcasters and distribution undertakings could theoretically be rewarded for performance in such areas through appropriate relief from other regulatory obligations. For example, some parties proposed that broadcasters could be offered reasonable reductions in traditional broadcast exhibition requirements in return for agreement to certain levels of Canadian new media broadcasting content.

200. Given the complexity of these incentives, however, few stakeholders argue for such an approach. Cultural groups are in favour of exhibition and expenditure requirements. Broadcasters argue that regulatory

[30] The Commission has, on a case-by-case basis, established baseline CPE requirements for major conventional groups as a consequence of ownership transactions.

flexibility in their core business would foster new media activity in a more practical manner than specific incentive-based trade-offs and allow them to compete more effectively with new media broadcasting undertakings outside of the Canadian regulated broadcasting system.

Promotion of Canadian new media broadcasting content

201. Although Canadian content funding appears to be a priority for proponents of regulatory intervention, it is not necessarily seen as an entirely sufficient approach. Cultural groups suggest that promotion is critical to raise awareness of the availability of Canadian new media broadcasting content. Further, they argue that the importance of promotion is amplified in the borderless global environment of new media.

The Canadian programming rights market

202. In addition to issues of direct support, stakeholders have raised a number of underlying concerns and questions that they believe are critical to Canada's ability to fund, exhibit and promote Canadian content. These include concerns over the amount of Canadian online advertising that is being directed to non-Canadian-owned and -controlled entities and the sustainability of a separate Canadian programming rights market.

203. Some broadcasters expressed concern that while traditional broadcasting's share of advertising remains strong, the growing share of advertising revenue accruing to new platforms has the potential for considerable impact on their future ability to meet their regulatory obligations.

204. A report commissioned by the Commission on the Canadian program rights market[31] suggests that, for the most part, authorized commercial video content sites operating in Canada, and in particular those providing television shows, currently treat Canada as a separate rights market. Reasons for this include the fact that online exhibition remains ancillary to broadcast exhibition (placing Canadian broadcasters in a good position to negotiate such rights) and the fact that advertising (the primary revenue source) tends to respect market borders. While some P2P-based and other video aggregator sites frequently enable the unauthorized distribution of broadcasting content and while DRM technologies can be bypassed, most consumption of authorized Canadian new media broadcasting programming comes from Canadian rather than foreign sources.

205. The majority of current stakeholders in the Canadian broadcasting system note that the maintenance of Canada as a separate rights market

[31] http://www.crtc.gc.ca/eng/publications/reports/miller07.htm

for new media broadcasting is critical to the continued health of the Canadian broadcasting system and enables Canadian new media broadcasting content to flourish.

206. These stakeholders, however, do not share a common perspective on the appropriate public policy response to the potential threat of extra-territorial audience bypass. Furthermore, the view that a separate Canadian rights market is sustainable or even desirable is not widely held by stakeholders who are less invested in the current broadcasting system.

207. One policy issue specific to new media broadcasting that has been raised is the possible applicability of the advertising tax deductibility provisions of the *Income Tax Act*. A number of stakeholders have suggested that these provisions, which generally limit the deductibility of Canadian advertising as an eligible expense to Canadian- rather than foreign-owned media, should be extended to Canadian online media.

Public service new media broadcasting

208. The CBC is recognized globally for its leadership in creating innovative new media broadcasting content that has resonated with audiences. Spanning radio and television, its multi-platform content is a model of integrated content creation. For example, audio programming is created for over-the-air broadcasts, satellite distribution, podcasting and online streaming.

209. Stakeholders generally applaud the CBC's initiatives and success in the new media environment. Commercial broadcasters and BDUs suggest that the CBC is poised to play an even greater role in using its public funding to develop and promote Canadian new media broadcasting content. Cultural groups and the CBC suggest that increased public funding is necessary if the public broadcaster is to continue to innovate and serve Canadians across an increasing number of platforms. Similar views arise with respect to provincial educational services and other public service broadcasters.

Other options for the new media broadcasting environment

210. No stakeholders have recommended that the Commission require *ex ante* approvals such as pre-registration or licensing as a condition of operation. No stakeholders have suggested blocking access to foreign services.

211. In the case of new media broadcasting services similar to existing broadcasting undertakings, some cultural stakeholders have suggested that measures such as exhibition obligations be considered. Analogous to measures currently used by the Commission in existing broadcasting and VOD/PPV regulations, these would require undertakings to offer a

minimum level of Canadian content within the inventory of their new media broadcasting services.

212. A common theme among stakeholders also noted in the Future Environment process is that Canadians' adoption of new media is creating a more open Canadian broadcasting system that fundamentally changes the costs and benefits of regulation.

213. For many stakeholders, the prospect of any regulation of new media broadcasting is untenable. Other stakeholders suggest new innovative approaches, including, for example, an entity-based approach to regulation.

214. Stakeholders suggest the possibility that flexible regulatory approaches could offer sufficient benefits to new media broadcasters that do not also own traditional licensed broadcasting services in return for meeting certain commitments. For example, certain new media broadcasting content providers suggest that they would accept base regulatory obligations such as the predominance of Canadian content, and/or a contribution in return for regulatory privileges.

C. Access to new media broadcasting content

215. Retail Internet service is a telecommunication service falling within the Commission's powers under the *Telecommunications Act.* The Commission exercised its powers to forbear from the rate regulation of retail Internet services in Telecom Order 99-592.[32] However, in that order, the Commission retained its powers under subsection 27(2) of the *Telecommunications Act* to provide safeguards against carriers performing any unjust discrimination or giving undue preference. At the time of forbearance, the majority of Internet users were using a dial-up service, while today over 60% of households subscribe to a high-speed Internet service. Approximately 93% of Canadian households have the ability to subscribe to a broadband Internet service, with the vast majority being able to choose between at least two facilities-based service providers.

216. Since 1999, the Internet has evolved to become an important platform for numerous applications that are increasingly putting new demands on the network infrastructure. These demands are expected to experience significant growth in the next few years due to the introduction of a wide range of applications and content requiring increasingly more bandwidth. The increasing demand for bandwidth is due in part to the fact that more and more users are seeking access to more and higher-quality broadcasting content over the Internet. A high volume of broadcasting

[32] *Forbearance from Retail Internet services*, Telecom Order 99-592, 25 June 1999.

content distributed by P2P file-sharing networks, including content that has not been authorized for distribution by the rightsholders, is placing further demands on networks.

217. ISPs note that the advent of these new services places demands on them to ensure that their networks are capable of delivering these services efficiently and cost-effectively while meeting the expectations of end-users. To support this increased demand, ongoing capital investment is required to deploy new technology that will support higher speeds and to effectively manage their networks.

218. The emergence of these new applications and demands on the network have led to global discussion about approaches to increase network infrastructure capacity and the sources of funding to support these network upgrades.

Network capacity and prioritization of traffic

219. There appears to be a consensus that video traffic will grow substantially in the years to come, placing significant demands on the Internet infrastructure. However, the extent and nature of this growth remains contingent on difficult-to-predict social and economic developments. Most critical of all perhaps is the relative timing of the growth in network capacity versus the growth in network traffic.

220. As Internet traffic requirements increase, the management of this infrastructure is becoming increasingly important because even brief intervals of congestion can disrupt the order and speed of packet delivery. Software in the end-user devices can adapt to these small variations and satisfy the performance requirements of non-real-time, low-intensity applications such as e-mail and web-browsing. However, real-time, higher-intensity bandwidth applications such as video streaming are much less tolerant, if not intolerant, of variable network performance.

221. To assist in controlling the high volume of traffic on their networks, ISPs are introducing new services. In addition to the different speeds associated with various Internet service offerings, ISPs in Canada are increasingly introducing usage thresholds on the amount of traffic that can be downloaded or uploaded for a subscriber's Internet service. If the usage threshold is exceeded, additional surcharges may apply to the end-user. Currently, usage thresholds typically range from 20 to 100 GB and some ISPs are now also offering options for unlimited usage. The introduction of these services demonstrates that the high-speed Internet service market is migrating towards a usage-pay model.

222. In addition, some ISPs indicated that they are contemplating offering to content providers services that would provide a prioritized delivery of the service to end-users. Services that may require this prioritized treatment include broadcasting services that require high-quality linear video delivery.

223. These ISPs indicated that the financial burden of implementing network expansion and upgrades may fall to consumers unless the establishment of priority services is implemented. They expressed concern that consumers may be unwilling to pay significantly more for Internet access to finance the network upgrades. Some ISPs further indicated that if they do not introduce differential charges to content providers, critical network expansion and improvement may be significantly reduced or delayed.

224. Stakeholders not in favour of allowing these priority services are concerned that it could introduce barriers to entry and have a negative impact on innovation by content and application providers. Further, these stakeholders contend that if ISPs were to offer these services, larger firms would be able to pay for prioritized transport, while small developing firms might not be able to afford these services.

225. Some broadcasters expressed concern over the possible use of traffic prioritization techniques to favour content provided by the ISP or an affiliated company. ISPs argued that section 27(2) of the *Telecommunications Act* would prevent such behaviour. In addition, the ISPs noted that as the Internet market is very competitive, any undue preference would result in customer churn.

226. In Canada, it is reported that since 2005 some ISPs have been using traffic prioritization techniques to throttle certain P2P traffic. Some ISPs indicated that they are using traffic management practices to control P2P traffic, typically during peak periods for network management purposes. Some broadcasters and consumer groups assert that legitimate Canadian new media broadcasting content is being adversely affected.

227. Stakeholders also raised the issue of consumer protection with respect to retail ISP services. These stakeholders maintain that ISPs have failed to disclose important information about their business practices concerning the level of service provided to end-users and the impacts on their ability to access broadcasting content.

228. Generally, stakeholders indicated that ISPs should be encouraged or required to clearly state their traffic management policies to customers before they subscribe to the Internet service and to inform existing subscribers of any changes. Specifically, some stakeholders called for ISPs to be required to clearly indicate the actual speeds that customers

should expect, any bandwidth limitations placed on accounts based on usage behaviour, and whether they manage Internet traffic of certain types of content or at specific times of the day. Stakeholders indicated that with this type of information concerning ISPs' traffic management practices, consumers can make more informed decisions about which provider and service offering best meets their needs. Disclosure of this information can also lead to more efficient use of the network by shifting consumer usage patterns from peak periods to non-peak periods when there is more capacity to handle high-volume traffic.

229. The Commission notes that there is increased discussion, research and regulatory investigation into broadband providers' business practices in Canada as well as other jurisdictions (particularly the United States). Most recently in Canada, the Canadian Association of Internet Providers has filed an application to the Commission requesting that Bell Canada cease and desist from throttling its wholesale ADSL Access Service.[33] The Commission addressed another request as part of Telecom Decision 2005-28.[34] In that decision, the Commission determined that it was unnecessary to impose specific restrictions on broadband service providers as the Commission considered that it could rely on subsection 27(2) of the *Telecommunications Act*, where appropriate, to prohibit Canadian carriers from intentionally degrading traffic.

Access to wireless mobile broadcasting platforms

230. Certain content providers expressed concerns regarding the availability of access to mobile platforms for the purpose of distributing programming to the Canadian public. These stakeholders submitted that some mobile service providers were acting as gatekeepers to their wireless platforms and, in some cases, were denying access on just and reasonable terms. These stakeholders argued for a Commission role in ensuring access to wireless platforms for the benefit of content providers who wished to distribute Canadian programming to the public.

Section IV. Conclusion

231. At the time of the original review of new media broadcasting 10 years ago, Internet and mobile adoption rates and the capabilities of new media broadcasting platforms were only beginning to emerge. Today, the pace of change is accelerating as new technologies and developments are being introduced on a daily basis. The ability to predict how new media

[33] http://www.crtc.gc.ca/PartVII/eng/2008/8622/c51_200805153.htm
[34] *Regulatory framework for voice communication services using Internet Protocol,* Telecom Decision CRTC 2005-28, 12 May 2005.

broadcasting will evolve is challenging, although trends with respect to consumer choice and increasing technological capability are clear.

232. The research, evidence, and stakeholder views examined above demonstrate that the landscape has changed significantly since the New Media Exemption Order. Several stakeholders suggested that new media broadcasting is becoming an important element of the Canadian broadcasting system that cannot be overlooked if the industry is to keep pace with Canadians' adoption of new media broadcasting technologies.

233. As noted in this document, in the course of consultations, stakeholders raised several suggestions, proposals and approaches to respond to the changing communications environment resulting from the impact of new media broadcasting. In some cases, these proposals fell outside of the Commission's jurisdiction and mandate under the Act and the *Telecommunications Act*. The Commission will continue to cooperate with other government departments with respect to these matters.

234. Stakeholder reaction to a proposed review of the exemption orders relating to new media was polarized. Some parties asserted that the achievement of the broadcasting policy objectives of the Act in the new media environment will require new policy measures. Other parties asserted that the existing exemption orders allow innovation and diversity to flourish and continue to be appropriate.

235. Thus, given the new media broadcasting trends and divergent stakeholder views, the Commission now considers it appropriate to review new media and, if necessary, revise the exemption orders. Fundamentally, it is necessary to determine if the new media broadcasting environment is contributing sufficiently to the achievement of the broadcasting policy objectives of the Act, and if it will continue to do so. Should the Commission find that the objectives of the Act are being met for these platforms, the existing exemptions from regulation would continue to apply. If new measures are required, the Commission seeks ways to support Canadian digital content with tools that embrace the innovation and creativity of the new landscape. To this end, public discussions that encompass Canadian new media broadcasting content and access to such content are necessary to gain further knowledge and to ensure the new media broadcasting environment continues to contribute to the achievement of the broadcasting policy objectives of the Act.

Section V. Appendices

Appendix A: Stakeholders consulted

As part of the New Media Project Initiative, over 60 stakeholders were consulted on the opportunities and challenges of the new media environment.

l'Association québécoise de l'industrie du disque, du spectacle et de la vidéo (ADISQ)
Alliance Atlantis
Alliance NumériQC
Alliance of Canadian Cinema, Television and Radio Artists (ACTRA)
Association des producteurs de films et de télévision du Québec (APFTQ)
Association of Canadian Advertisers (ACA)
Astral Media
Barna-Alper Productions
Bell Canada
Bell New Media Fund
BiteTV
CANARIE
Canadian Audio-Visual Certification Office (CAVCO)
Canadian Association of Broadcasters (CAB)
Canadian Broadcasting Corporation (CBC)
Canadian Film and Television Producers Association (CFTPA)
Canadians for Democratic Media
Canadian Press
Canadian Recording Industry Association (CRIA)
CanWest Mediaworks
CHUM
Cisco
Cogeco
Communications, Energy & Paperworkers Union of Canada (CEP)
comScore Media Metrix
Corus
CTVglobemedia
Director's Guild of Canada (DGC)
Epitome Pictures
Friends of Canadian Broadcasting
Geist, Michael
Google Canada
Interactive Advertising Bureau (IAB)
Intel Canada
Interactive Ontario
Limelight Networks
M2 Universal

Marble Media
Microsoft
Mobile MUSE
Mobovivo
Move Networks
MTS Allstream
National Film Board (NFB)
NOANK Media
Ontario Media Development Corporation (OMDC)
Pelmorex
Quickplay Media
Radio Canada
Rogers Communications
Sandvine Networks
Shaw Cablesystems
Society of Composers, Authors and Music Publishers of Canada (SOCAN)
Telefilm Canada
Telus
TVOntario
Salambo Productions
Union des Artistes (Uda)
Videotron
Xenophile Media

International consultations

Federal Communications Commission (FCC)
Office of Communications (OFCOM)
Conseil superieur de l'audiovisuel (CSA)
L'Autorité de regulation des communications électroniques et des postes (ARCEP)
Organisation for Economic co-operation and development (OECD)
European Commission (EC)

Appendix B: Mobile offerings

Mobile offerings in April 2008, by the three major mobile operators in Canada. Canadian product offerings are identified with 🍁.

Bell Canada Mobility Services		
Mobile TV	**Video On Demand**	**Radio (Sirius Services)**
CBC Newsworld 🍁	Ripley's	*Hits 1*
RDI 🍁	Animax Mobile 🍁	*The Pulse*
The Weather Network 🍁	GolTV	*Soul Town*
Météo Media 🍁	theScore 🍁	*Heart & Soul*
FOX News	Tetes a Claques 🍁	*New Country*
FOX Sports	MTV	*Prime Country*
TLC	NHL	*Area 33*
Star! 🍁	Fashion TV	*Chill*
MuchMusic 🍁	ESPN	*Jazz Café*
MuchMoreRetro 🍁	Fox	*60's Vibrations*
MuchVibe 🍁	STC	*Totally 70's*
G4techTV 🍁	AccuWeather	*Big 80's*
YTV 🍁	ComedyTime	*Iceberg Radio* 🍁
Treehouse 🍁	Tribute TV 🍁	*Classic Vinyl*
ToonWorld TV Classics	Bite	*Classic Rewind*
Comedy Time	CBC 🍁	*Hair Nation*
The Shopping Channel 🍁	Global News 🍁	*First Wave*
Bloomberg Television	Zapavision	*The Spectrum*
SPEED	CTV 🍁	*CBC Radio 3* 🍁
MAXX Sports	BNN 🍁	*Bande à Part* 🍁
MAXX Look	Bikini Girls	
	Male Models	
	HBO	

Rogers Communications		
Mobile TV	**Video On Demand**	**Radio (XM Services)**
WWE mobile	YouTube	*SoulStreet*
CBC Newsworld	Live Nation	*Suite62*
CNBC	Météo Media	*Rhyme*
MSNBC	CTV	*Raw*
Fox News	MTV	*Top 20on20*
FOX Sports	Sports Net	*The Blend*
TLC	Audigram	*Flight26*
Star!	BNN	*Top Tracks*
MuchMusic	Adult Swim	*Big Tracks*
MuchVibe	Heroes	*Musiclab*
The Weather Network	MusiquePlus	*The Verge*
Météo Media	NY Ranger	*The '90s*
RDI	Tetes A Claques	*bpm*
G4 Tech TV	WebPresse.ca	*The System*
The Shopping Channel	33mag	*XM Comedy*
YTV	WWE Mobile	*Virus*
Treehouse	Access Hollywood	*America*
ToonWorld TV Classics	ET Canada	*Highway16*
Comedy Time	NBC Mobile	*Watercolors*
SPEED	CBC News	*AirMusique*
MAXX Sports	RDI	*The Joint*
MAXX LOOK	MAXX Sports	*Sur la Route*
The Mic Hip Hop	CBC	*XM Pops*
	The Weather Network	
V40		*Escape*
	MuchMusic	98.1 CHFI
	Treehouse	JackFM
	MSNBC	680 News
	TLC	
	MuchVibe	
	G4TechTV	
	ToonWorld	
	YTV	
	MAXX Look	
	The Shopping Channel	
	Star!	
	Fox News	
	FOX Sports	
	V40	
	CNBC	
	The Mic Hip Hop	
	iThentic	
	mobitv	

TELUS Mobile Services		
Mobile TV	**Video On Demand**	**Radio (XM Services)**
CBC Newsworld		*US Country*
RDI	NUMEROUS	*Top 20 on 20*
Weathernetwork	CHANNELS	*Flight 26*
Meteomedia	BUT DETAILED INFO	*XM Hitlist*
Fox News Channel	NOT LISTED	*Top Tracks*
Fox Sports	ON WEBSITE	*Ethel*
TLC	(Content changing	*The Verge*
MuchMusic	Constantly)	*XM Liquid Metal*
G4TechTv		*Squizz*
The Shopping Channel		*The Rhyme*
YTV		*RAW*
Treehouse		*Suite 62*
Toonworld TV Classics		*The City*
Comedy Time		*The Heat*
Speed		*The Joint*
MaxxSports		*Real Jazz*
MaxxLook		*BPM*
Bloomberg Television		*XM Pops*
MaxxLook		*XM Comedy*
Bloomberg Television		*The Virus*
		Air Musique
		Sur La Route

Appendix C: Glossary

ARCEP

Autorité de Régulation des Communications Électroniques et des Postes (France)

Bandwidth

A measure of the amount of data that can travel through a network or of the information capacity of a transmission channel, usually measured in kilobits per second (Kbps). The maximum data-carrying capability of a point-to-point telecommunications connection as a result of the range of frequencies available to be occupied by signals, usually expressed in terms of hertz (Hz) in analog systems and as a number of bits per second in digital systems.

BDU

Broadcasting distribution undertaking

Broadband

An always-on, high-speed connection to the Internet through the facilities of an ISP. The term commonly refers to Internet access via cable and digital subscriber line (DSL) but can include other technologies including wireless HSPDA and 1X that provide download throughput of greater than 1 megabit per second (Mbps).

CCD

Canadian content development

CPE

Canadian programming expenditures

CSA

Conseil Supérieur de l'Audiovisuel (France)

CTF

Canadian Television Fund

Content aggregator

An online entity that makes online content available for streaming or download by Internet users.

Content delivery network (CDN)

A networked system of data storage caches, routers and other hardware and software that optimizes Internet content delivery to end-users.

DRM

Digital rights management

DTH

Direct-to-home

Download

A file containing data the user is meant to keep as his own.

DOCSIS

Data Over Cable Service Interface Specification

FCC

Federal Communications Commission (United States)

ISP (Internet service provider)

An entity that provides access to the Internet and related web services to end-users.

MDS

Multipoint distribution system

Mobile television

Television broadcasting services that are received by way of mobile devices, including cellular telephones and personal digital assistants, and that use point-to-point technology to deliver the services; that is, the undertaking transmits a separate stream of broadcast video and audio to each end-user.

Mobisode

A program that has been created for viewing on devices with very small screens, such as a mobile telephone.

OECD

Organisation for Economic Co-operation and Development

Ofcom

Office of Communications (United Kingdom)

PPV

Pay-per-view

Peer-to-peer (P2P)

A description of the process whereby digital files are exchanged between users of a network, usually employing a system architecture that indexes the files a user makes available to others and establishing an automated direct connection between users for the file download.

Podcast

A digital audio file containing news or radio-type programming created by a user or a broadcaster that can be downloaded to a personal media device for subsequent listening. With the help of the content delivery system known as Really Simple Syndication (RSS) and media aggregators, users can download this material from the web to their computers or portable devices at any time and listen at their convenience.

Point-to-point transmission

A form of communication whereby each user receives a separate data stream.

Point-to-multipoint transmission

A form of communication whereby the same data stream is sent to multiple users at the same time.

Portal

A website consisting primarily of assembled information and links, typically having a news and entertainment component, that is offered free of charge or on a subscription basis.

Pre-roll advertising

Pre-roll ads are typically either 15 or 30 second long advertisements that may precede the online viewing of either full-episode or short-form content.

Preview

An excerpt of a sound or video recording that can be streamed so that consumers are allowed to preview the recording.

RSS

Short for "**Rich Site Summary**," also known as "**Really Simple Syndication**." A web format for content distribution in real time, used by news and content providers to update and disseminate newly added information to viewers in the form of headlines.

SRDU

Satellite relay distribution undertaking

Simulcast

Generally involves broadcasting a program or event at the same time on more than one medium.

Social networking sites

Online communities of users that facilitate customization of user profile pages accompanied by rich communications tools.

Stream

A transmission of data that allows the user to listen or view the content at the time of transmission and that is not meant to be reproduced, even though a temporary copy sometimes is stored on the user's hard drive.

User-generated content

Refers to various kinds of media content, publicly available, that are produced by end-users and distributed over the Internet.

VOD

Video-on-demand

WAP

A protocol that standardizes how the networks transmit web documents to cellular phones, pagers and other handheld devices.

WiFi

An open-standard technology that enables wireless connectivity between laptops and local area networks.