THE POTENTIAL DEATH OF WIRELINE TELEPHONY: WHAT THIS COULD MEAN FOR CANADIAN CONSUMERS

union des consommateurs

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Strength through Networking

Union des consommateurs is a non-profit organization comprised of 14 consumer rights groups.

UC's mission is to represent and defend the rights of consumers, with special emphasis on the interests of low-income households. Its activities are based on values cherished by its members: solidarity, equity and social justice, and improving consumers' economic, social, political and environmental living conditions.

UC's structure enables it to maintain a broad vision of consumer issues while developing in-depth expertise in certain programming sectors, particularly via its research efforts on the emerging issues confronting consumers. Its activities, which are nation-wide in scope, are enriched and legitimated by its field work and the deep roots of its member associations in their communities.

Union des consommateurs acts mainly at the national level, by representing the interests of consumers before political or regulatory authorities, in public forums or through class actions. Its priority issues, in terms of research, action and advocacy, include the following: household finances and debt, energy, issues related to telecommunications, broadcasting, cable television and the Internet, health, financial products and services, as well as social and fiscal policies.

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INTRODUCTION

By the fall of 2022, Canada will have four new area codes, or approximately 30 million new telephone numbers[1], in addition to the 40 area codes already in use and many reserved for areas that may need them in the near future[2]. As the country's population grows, so does the demand for telephony – so Canadians have an increasing need for telephone numbers.

Many Canadians also have multiple personal numbers, by subscribing to both landline and wireless telephone services. While wireless is now popular, Canada still has one of the lowest rates of consumers subscribing exclusively to this service[3]. The good old landline phone is still popular, even if its star is shining less and less. More and more households are discontinuing their wireline service. Faced with an aging infrastructure, some providers have begun to dismantle their wireline network in favour of fibre optic technology, which is more efficient and more resistant to bad weather. In this context, pointing to the almost inevitable end of this service, we have to wonder about the future of wireline telephony and the impact that its disappearance will have, especially on the most vulnerable consumers.

This report will provide a portrait of the state of fixed telephony services in the country and the warning signs of the end of wireline services. It will also discuss the multiple contributions of telephony to society and the socio-economic risks potentially generated by the end of wireline service. We will then analyze the replacement options available to Canadian consumers and the extent to which these options meet their needs and expectations. We will look at the current regulatory framework and the rules that may apply in the event of service termination. Finally, we will examine the wireline network discontinuation processes already underway in France, the United Kingdom and the United States, in order to reflect on the measures required in Canada to ensure a smooth transition to other telephone technologies.

A few words on the terminology

The world of technology is full of technical terms. It is important to make a few clarifications in order to facilitate the understanding of this report on **fixed telephony**. What are we talking about when we use this term? A telephony system where the subscriber accesses the telephone network from a fixed location only.

It should be noted that there does not appear to be a consensus on what terms to use, in either French or English. For example, communication service providers here generally use the term "**residential**

[1] CRTC. Telecom Decision CRTC 2022-51 (584 in Manitoba); CRTC. Telecom Decision CRTC 2021-364 (263 in Quebec); CRTC. Telecom Decision CRTC 2021-393 (468 in Quebec); CRTC. Telecom Decision CRTC 2019-13 (354 in Quebec, effective date deferred to 2022).
[2] CRTC. Telecom Decision CRTC 2017-38.
[3] MANDER, J. *Chart of the day. Mobile-Only Users by Country*, GWI Blog, December 6, 2016, online: https://blog.gwi.com/chart-of-the-day/mobile-only-users-by-country/

telephony" to describe fixed telephony, in that it is associated with a subscriber's home. This term, however, excludes fixed line services that are intended for business customers.

It should also be noted that the device used to make the calls is not relevant to the classification of types of telephony; it is the technology used that is decisive. Thus, we speak of fixed telephony even when a consumer uses a wireless handset; even if this type of handset can be moved within the confines of a home or property, the base from which it connects is fixed, and directly connected to the telephone network. Wireless telephony, by contrast, is entirely mobile, as the signals are transmitted over the air.

Several different technologies are used to provide fixed telephony. The two most common are **wireline** and **VoIP** (voice over Internet Protocol, also known simply as IP telephony) **technologies**. The former is older and is offered through copper wire and coaxial cable networks[4]. It is the decline and eventual foreseeable demise of these networks that has prompted this research. The Canadian Radio-television and Telecommunications Commission (CRTC) has generally referred to this type of service as "local telephony" or "basic telephony," rather than "wireline telephony."[5] IP technology, sometimes described as the inevitable successor to wireline technology, operates over the Internet, as its full name implies. Providers here and elsewhere are mainly turning to this technology in order to offer residential telephony.

It should also be noted that there are specific names for different types of telephony service providers. Some local service providers are referred to by the CRTC as **incumbent providers** because they have their own wireline telephone network. This is the case for Bell and Telus, for example. Other providers are described as **cable companies** because they have historically provided cable services in monopoly environments. This is the case with Rogers, Shaw and Videotron for example. All of these providers now offer fixed telephony services using the two technologies described above – wireline and IP.

Some providers are known as **resellers**, who do not have their own infrastructure, or have only partial infrastructure, and offer their service using other providers' infrastructure. This is made possible by "wholesale service," a regulatory framework put in place by the CRTC to allow providers to access their competitors' networks for a fee. It should be noted that resellers make up more than two-thirds of the active telecommunications service providers in the country, but account for only 3.5% of industry revenues[6]. The five largest providers, mentioned in the previous paragraph, account for 87% of total revenues!

[4] CRTC. "Voice wireline service, Glossary, online: https://crtc.gc.ca/eng/dcs/glossaryt.htm
[5] CRTC. "Local telephone service," online: https://crtc.gc.ca/multites/mtwdk.exe?k=glossary-glossaire&l=60&w=384&n=1&s=5&t=2
[6] CRTC. *Communications Market Reports – Annual highlights of the telecommunications sector, 2020*, Table 1, online: https://crtc.gc.ca/pubs/cmr_telecom_2021-en.pdf

TELEPHONY AND SOCIETY

chapter 1

The telephone owes its existence above all to the telegraph, invented in 1844. The device introduced for the first time the possibility of communicating at a distance in real time[7]. It was used by governments, the world of finance and information. But its use never spread to the general public, mainly because it required mastery of Morse code[8].

About thirty years later, in March 1876, Alexander Graham Bell invented the telephone[9]. Considered by its creator as an "adaptation of the telegraph[10]," the new device allows the transmission of words on the electrical circuit, and not only of electrical impulses that must then be decoded. In the months following his invention, Bell began marketing the telephone, presenting it at the World's Fair held in Philadelphia that year[11]. It attracted the elite's attention, but left many perplexed. For example, the American president at the time, Rutherford B. Hayes, was quoted as saying, "That's an amazing invention, but who would ever want to use one of them?[12]"

Bell's father, who was based in Canada, was responsible for marketing the telephone in Canada. Lord Dufferin, Alexander Mackenzie, the Prime Minister of the day, and Ontario businessmen were among his first customers[13]. Slowly, the ruling class of the major cities began to use the telephone. In 1882, Toronto had 250 telephones and Montreal had 550[14]. The telephone was expensive and fragile and required constant maintenance[15]. In 1922, barely 6% of households in Toronto and Montreal had a telephone. The rest used telegraph booths in the cities[16]. Telephones were relatively unavailable in rural areas and in some parts of the country, such as British Columbia and Newfoundland and Labrador[17]. But this situation did not worry the authorities. The telephone was not seen as a necessity. Bell Canada officials even stated that "[the] telephone service is not universal in its character and should not be supported by tax money[18]." The telephone's penetration rates in the decades that followed would ensure that this claim about the service's characteristics would be refuted. By 1945,

[7] RENS, J.-G. The invisible empire: a history of the telecommunications industry in Canada, McGill-Queen's University Press, 2001, p. xv.
[8] NYE, D. E. "Shaping Communication Networks: Telegraph, Telephone, Computer," *Social Research*, vol. 64, No. 3, 1997, p. 1071.
[9] RENS, J.-G. *The invisible empire*, *op. cit.,* note 7, p. 49.
[10] *Ibid. p.* 48.
[11] *Ibid. p.* 49.
[12] ELON UNIVERSITY. 1870s – 1940s: *Telephone*, Imagining the Internet, A History and Forecast, online: https://www.elon.edu/u/imagining/time-capsule/150-years/back-1870-1940/ (consulted on November 18, 2021).
[13] RENS, J.-G. *The invisible empire*, *op. cit.,* note 7, p. 57.
[14] *Ibid. p.* 68.
[15] *Ibid. p.* 72.
[16] MARTIN, M. "Hello central? Compagnies de téléphone, abonnés et création d'une culture téléphonique au Canada (1876-1920)," *Réseaux*, vol. 10, No. 55, 1992, p. 30.
[17] CRTC. Telecom Regulatory Policy CRTC 2011-291, par. 1.
[18] LASEN, A. *History Repeating? A Comparison of the Launch and Uses of Fixed and Mobile Phones*, in HAMILL, L. and LASEN, A., dir., Mobile World, Springer, 2005, p. 34.

one in five Canadians owned such a device[19]. And the telephone companies had large waiting lists of customers who wanted one of their own, but had to wait because of the restrictions imposed by the Second World War. Telephone adoption finally reached its peak in the 1970s and continued until the late 1990s[20]. By then, nearly 70% of Canadians owned a telephone. The adoption of the wireless telephone, which was introduced in the early 1980s[21], followed much the same trajectory in Canada, but at a faster pace. Initially reserved for businesspeople and the elite, the device was more widely adopted in the late 1990s and early 2000s[22].

It should be noted that Canada, along with its American neighbour, was a forerunner in the use of the telephone. The device's adoption was historically faster than in other industrialized countries, such as France and the UK, which initially favoured the use of their public postal services and the telegraph[23]. And Third World countries were largely excluded from the new technology, even though the telegraph had quickly been introduced there[24]. Moreover, we would witness technological leapfrogging in telephony in numerous Third World countries, i.e. the almost universal adoption of wireless telephony in those societies would not follow that of fixed residential telephony, which will have been the transitional technological stage elsewhere[25].

1.1 The Contributions of Telephony to Society

The contributions of the telephone to society are significant. The device has transformed the organization of commerce, work, health and public safety. It has also greatly affected people's personal and domestic lives. It acts as a tool for socialization, information and even power. This section aims to provide a general portrait of the main facets of the telephone's contributions to Canadian society. Since our research focuses on fixed telephony, we will concentrate our analysis on this type of telephony, but will also address the subsequent (and renewed) contributions of mobile telephony, where relevant.

It should be noted at the outset that the telephone's integration into society occurred during a pivotal period of social change. Advances in transportation (the railway, for example) and communication (the telegraph, then the telephone) led to a social and economic interdependence of communities and individuals[26]. Urbanization increased and public infrastructures were deployed in cities. While initially envisioned as a solution to the rural exodus that began to be felt at the turn of the 20th century, the telephone only amplified it, with the help of the railroad, then the automobile and the radio, which favoured access and exposure to the urban lifestyle[27]. The telephone is also described by some authors

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[19] CBC, *Telephones become a necessity, not a luxury*, CBC (Archive), online: https://www.cbc.ca/archives/entry/telephones-become-a-necessity-not-a-luxury (consulted on November 18, 2021).
[20] WORLD BANK. *Fixed telephone subscriptions (per 100 people) - Canada – 1960 – 2020*, online: https://data.worldbank.org/indicator/IT.MLT.MAIN.P2?locations=CA (consulted on November 18, 2021).
[21] ZABIHIYAN, B. Le téléphone cellulaire a 40 ans, Radio-Canada, April 1, 2013, online: https://ici.radio-canada.ca/nouvelle/607003/telephone-motorola-iphone
[22] LASEN, A. *History Repeating? op. cit.,* note 18, p. 56.
[23] RENS, J.-G. *The invisible empire*, *op. cit.,* note 7, p. 169.
[24] *Ibid. p.* 170.
[25] JAMES, J. The impact of cell phones on poverty and inequality in developing countries, Springer, 2016, pp. 14-17.
[26] MACDOUGALL, R. "The People's Telephone: The Politics of Telephony in the United States and Canada, 1876-1926," Enterprise & Society, vol. 6, No. 4, 2005, p. 582.
[27] RENS, J.-G. *The invisible empire*, *op. cit.,* note 7, p. 339.

as an instrument of urban adaptation, capable of shaping an immediate and symbolic proximity despite a context of social mobility[28].

But the telephone is not exactly like other advances of the time. It is integrated directly into the homes of individuals. It links the private sphere to the public sphere[29]. The home loses its autonomy by being integrated into the community in which it is located, although at the same time liberalism and individualism emerge[30].

1.1.1 A Tool of Commerce

The telephone was initially marketed to the business community[31]. It was seen as a tool for improving commerce and economic exchange. The vast majority of available telephones were in the workplace in the 19th century[32]. The use of the telephone for leisure or social purposes was highly frowned upon at the time, especially if it was likely to interfere with the conduct of business, as telephone lines were initially shared among several subscribers[33].

The telephone rapidly came to be used by merchants to buy and sell goods and services, both wholesale and retail[34]. It reduced travel, but also the asymmetry of information between merchants and consumers. The telephone book, which facilitated those transactions, appeared very early on. The first Toronto (1879) and Montreal (1880) directories contained only a few pages[35]. A century later, the use of the telephone for telemarketing purposes, i.e., soliciting consumers by telephone for the purpose of promoting and selling goods and services, became widespread[36].

The introduction of the telephone also favoured the development and expansion of stock markets. Financial information was more readily available and it was now possible to execute shareholder requests in near real time[37].

Finally, the arrival of the telephone brought about a profound reorganization of the workplace. It favoured the creation of business centres in the city, detached from production or distribution sites[38].

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[28] LASEN, A. *History Repeating? op. cit.,* note 18, p. 54.
[29] PATTON, E. A. "The telephone and better living," *Easy Living: The Rise of the Home Office*, Rutgers University Press, 2020, p. 41; RENS, J.-G. *The invisible empire*, *op. cit.,* note 7, p. 335.
[30] RENS, J.-G. *The invisible empire*, *op. cit.,* note 7, p. 336.
[31] *Ibid.* pp. 336-337.
[32] MACDOUGALL, R. "All Telephones Are Local," *The People's Network: The Political Economy of the Telephone in the Gilded Age*, University of Pennsylvania Press, 2014, p. 42.
[33] MARTIN, M. "Hello central? Compagnies de téléphone, abonnés et création d'une culture téléphonique au Canada (1876-1920)," *Réseaux*, vol. 10, No. 55, 1992, p. 45; FISCHER, C. S. "Touch Someone": The Telephone Industry Discovers Sociability," *Technology and Culture*, vol. 29, No. 1, 1988, p. 33.
[34] ARONSO, S. H. "Téléphone et société," *Réseaux*, vol. 10, No. 55, 1992, p. 16.
[35] KRASHINSKY, S. "Hanging up on the phone book," Globe and Mail, June 6, 2010, online: https://www.theglobeandmail.com/report-on-business/hanging-up-on-the-phone-book/article4388683/; FRANCOIS, C. "Allô Montréal, un rappel de l'évolution du téléphone," Radio-Canada, March 8, 2017, online: https://ici.radio-canada.ca/nouvelle/1021198/allo-montreal-exposition-evolution-telephone-musee-pointe-calliere
[36] Telemarketing practices really take off in the 1970s: AIR MARKETING. *It Wasn't Always A Piece Of Cake – The History Of Telemarketing*, November 23, 2018, online: https://www.air-marketing.co.uk/2018/11/23/it-wasnt-always-a-piece-of-cake-the-history-of-telemarketing/
[37] ARONSO, S. H. "Téléphone et société," *op. cit.,* note 34, pp. 15-16.
[38] DUPUY, G. "Le Téléphone et La Ville : Le Téléphone : Technique Urbaine ?" *Annales de Géographie*, vol. 90, No. 500, Armand Colin, 1981, pp.389-394.

1.1.2 A Tool for Domestic Life

By promoting the development of commerce, the telephone also facilitates household consumption. Along with Internet access services, telephone services are now considered "electronic highways of advanced consumer-oriented societies[39]." In the early days of the telephone, housewives were encouraged by advertisements to use the device to make purchases and appointments for the smooth running of the household[40]. It later became a means of communicating with the state, to obtain or coordinate access to its services.

At an early stage, the telephone also played a role in monitoring and tracking children and adolescents, who were asked to "stay in touch" by calling home from a public phone booth, for example[41]. This function became increasingly important with the adoption of wireless phones; the phenomenon is now referred to as "mobile parenting[42]."

More broadly, the wireless phone has turned the phone from a household management tool into a personal management tool.

> *The cell phone is becoming a personal trusted device, a life management tool for business, work and leisure. It will take on many roles: an anchor point, a digital navigator and a lifestyle accessory that will help individuals control and enrich their lives*[43].

1.1.3 A Public Health and Safety Tool

From the beginning, the telephone was also used to facilitate access to emergency services. It is now possible to communicate quickly with the police or fire departments without having to travel. The first step was to get help from an operator. Then, services were available at a variety of numbers (depending on the service desired and where you live)[44]. Universal emergency numbers were introduced much later, first in the UK in 1927 (999) and then in the United States in 1973 (911). The 911 number was adopted by major Canadian cities in the 1980s (Toronto in 1982 and Montreal in 1985, for example)[45].

From its inception, the telephone was also used to contact physicians in a non-emergency care setting. In fact, the device was seen as a revolutionary tool for medicine at the end of the 19th century. Physicians initially developed telephone auscultation techniques, mistakenly believing that the device

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[39] DUTTON, W. H. "The social impact of emerging telephone services," Telecommunications Policy, vol. 16, No. 5, 1992, p. 378.
[40] FISCHER, C. S. "'Touch Someone': The Telephone Industry Discovers Sociability." Technology and Culture, vol. 29, No. 1, 1988, p. 39.
[41] ABILDGAARD, M. and HUMPHREYS, L. "Landline natives: telephone practices since the 1950s as innovation," Technology and Culture, vol. 61, No. 3, 2020, p. 940.
[42] LASEN, A. History Repeating? *op. cit.,* note 18, p. 39; LING, R. *Taken for Grantedness: The Embedding of Mobile Communication Into Society*. The MIT Press, 2012, p. 124.
[43] DE VRIES, I. *Mobile Telephony: Realising the Dream of Ideal Communication?* in HAMILL L. and LASEN A., dir., Mobile World, Springer, 2005, p. 24.
[44] 911 EDUCATION FOUNDATION. *History of 911 and what it means for the future of emergency communications*, 2015, online: https://www.ng911institute.org/wp-content/uploads/2015/10/iCERT-9EF_Historyof911_WebVersion.pdf
[45] SPVM. *Centre d'urgence 911 - Histoire*, online: https://spvm.qc.ca/fr/Pages/Decouvrir-le-SPVM/Qui-fait-quoi/Centre-durgence-911-/Histoire (consulted on November 17, 2021); TORONTO POLICE SERVICE. *The Development of 9-1-1*, online: http://www.torontopolice.on.ca/communications/e911.php (consulted on November 17, 2021)

optimized audible sounds[46]. The telephone was then used as a stethoscope for the heart, lungs and even the bladder[47]. Doctors used it, among other things, to diagnose and treat patients in remote areas, but also to preserve the modesty of female patients in cities[48].

The telephone was introduced in doctors' and pharmacists' offices as early as 1880, but also in large hospitals in urban centres[49]. It was used to improve the end of life of hospitalized people, who could remain in contact with their loved ones. It is seen as an important instrument of palliative care at the time[50] (and still today). It was also used to facilitate the isolation and movement of contagious patients to sanatoriums, notably during the smallpox epidemic in 1885[51].

The issue of telephone use in the context of medical isolation has become particularly topical again in recent years with the COVID-19 pandemic. In the first four months of the pandemic in Canada (March to June 2020), nearly half of Canadians used virtual health care (calls, emails, text messages, video), according to the Canadian Medical Association[52]. Even before 2020, telemedicine had already gained prominence as a response to medical deserts and to facilitate the monitoring of chronic diseases by medical professionals[53]. For example, the Mayo Clinic highlights the many possibilities offered by smartphones: virtual tracking of daily medical data (e.g., blood glucose levels, blood pressure, sleep patterns) entered manually or recorded automatically, ordering medications and tests remotely, reminder calls or text messages for preventive care (e.g., vaccines), etc.[54]

Finally, it should be noted that since the 1980s, a variety of psychosocial referral and assistance services have been added to telemedicine and 911 services, such as crisis lines for people in psychological and social distress[55]. In Quebec alone, there are currently about thirty such lines (for youth, seniors, LGBTQ2+ people, people in mourning, victims of sexual assault, etc.)[56].

1.1.4 A Tool for Socialization

Despite the business community's initial opposition, the telephone quickly became a tool for socialization, unlike its ancestor, the telegraph[57]. As early as the 1920s, the telephone was used to maintain contact with relatives who did not live nearby (long-distance calls). And from the 1930s, it

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[46] BONEA, A. et al. *Anxious Times: Medicine and Modernity in Nineteenth-Century Britain*, University of Pittsburgh Press, 2019, p. 67.
[47] *Ibid.. p.* 68.
[48] *Ibid.. p.* 68.
[49] *Ibid.. p.* 72.
[50] *Ibid.. p.* 63.
[51] *Ibid.. p.* 76.
[52] ZAFAR, A. Many Canadians used virtual medical care during COVID-19, poll suggests, CBC, 8 June 2020, online: https://www.cbc.ca/news/health/virtual-care-cma-survey-1.5603713
[53] ROSIER, F. Covid-19 : l'essor fulgurant de la télémédecine, Le Monde, 20 October 2020, online: https://www.lemonde.fr/le-monde-evenements/article/2020/10/20/covid-19-l-essor-fulgurant-de-la-telemedecine_6056664_4333359.html
[54] MAYO CLINIC. *Telehealth: Technology meets health care*, May 15, 2020, online: https://www.mayoclinic.org/healthy-lifestyle/consumer-health/in-depth/telehealth/art-20044878#
[55] BARDIN, L. "From the landline to the cell phone. A Quarter Century of Mediated Interpersonal Relations in France." Cahiers Internationaux de Sociologie, vol. 112, Presses Universitaires de France, 2002, p. 107.
[56] 211. *Lignes d'écoute et d'aide dans le Grand Montréal*, online: https://www.211qc.ca/soutien-psychosocial/lignes-ecoute-lignes-aide (consulted on November 22, 2021).
[57] LASEN, A. *History Repeating? op. cit.,* note 18, pp. 32-33.

was used to talk regularly with relatives and friends, whether they lived far away or not[58]. The telephone has not replaced face-to-face visits, but it has greatly facilitated their organization and has reduced their impromptu nature. A new practice also emerged: pre-arranging meetings in public places[59].

More generally, the telephone allows the development of a wider social network (a process already begun by urbanization). It creates what experts call an "artificial social environment" that replaces or adds to the real environment of individuals[60]. The telephone plays a role in maintaining social ties in a community that is more individualistic than before. Its use reduces total isolation or loneliness. In this sense, the telephone contributes to the feeling of physical and social security of individuals, even when they are not using it. This may explain the strong negative reaction of individuals to network failures, for example, even when they are very short[61].

> *Despite the break-up of communities, individuals [maintain] important bonds of solidarity through networks of relationships extended in space and diversified in content. It is no longer living together, close to each other in the same space, that ensures social cohesion, but the maintenance of specialized interpersonal links, reflecting the fact that each person belongs to differentiated and juxtaposed relational universes (work, friends, family, associations, leisure activities) within which the different aspects of relational support (emotional, material, informational, etc.) are crystallized*[62].

Finally, it should be emphasized that the telephone has also had a considerable impact on the very functioning of social relations. It has brought immediacy to long-distance communications, which in turn has provoked a new state of mind: the expectation and demand for immediate results in professional, social and even intimate relationships[63]. The advent of the wireless phone has added a new element to this immediacy: the speed of communication, which today is manifested in particular by text messages and by emoticons that allow people to share a feeling without using words[64].

1.1.5 An Information and Entertainment Tool

Telephony quickly became a tool for researching and disseminating information of general interest to the public. Switchboard operators initially played the role of informal journalists. They answered questions of all kinds: police bulletins, the status of floods or fires in a locality, etc.[65]

Telephone companies, aware of the demand, developed telephone information and entertainment services at the end of the 19th century. The elite of the time, who owned a telephone, could listen to

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[58] FISCHER, C. S. "'Touch Someone': The Telephone Industry Discovers Sociability." Technology and Culture, vol. 29, No. 1, 1988, pp. 42-44.
[59] FISCHER, C. "Appels privés, significations individuelles. Histoire sociale du téléphone avant-guerre aux États-Unis," *Réseaux*, vol. 10, No. 55, 1992, p. 82.
[60] DUPUY, G. "Le Téléphone et La Ville : Le Téléphone : Technique Urbaine ? Annales de Géographie, vol. 90, No. 500, Armand Colin, 1981, p. 395; DE VRIES, I. Mobile Telephony: Realising the Dream of Ideal Communication? in HAMILL L. and LASEN A., eds, Mobile World, Springer, 2005, p. 17.
[61] LASEN, A. *History Repeating? op. cit.,* note 18, p. 54.
[62] RIVIÈRE, C-A. "Le téléphone : un facteur d'intégration sociale," Économie et Statistique, No. 345, 2001, p. 7.
[63] FISCHER, C. "Private calls, individual meanings. A Social History of the Prewar Telephone in the United States," Networks, vol. 10, No. 55, 1992, p. 89.
[64] LASEN, A. *History Repeating? op. cit.,* note 18, p. 47.
[65] ARONSO, S. H. "Téléphone et société," *op. cit.,* note 34, p. 18.

concerts, plays, sports matches or sermons, as well as news and weather reports specially designed for the telephone network[66].

Those services, like switchboard operators, have disappeared, but the use of the telephone for information and entertainment purposes is still alive and well, even revived by the advent of the wireless smartphone. More than a third of Canadian consumers now access newspapers and news magazines on their smartphones[67]. And a majority regularly use mobile gaming, video and audio streaming applications for entertainment on their device[68].

1.1.6 A Tool of Power

The telephone's ability to disseminate information quickly and widely is not limited to the journalistic and cultural communities. The device has also been used extensively by activist organizations and grassroots movements for that purpose. The American civil rights movements of the 1950s and 1960s, and the peace, environmental and feminist movements of the 1970s and 1980s relied heavily on the telephone to organize and mobilize[69]. The same thing happened with the pro-democracy movements in the Arab world and the global Occupy movement in the early 2010s, this time with the help of the wireless phone[70]. The latter, now equipped with a camera and usually connected to the Internet and social media, plays a significant role in documenting human rights violations by the state, for example during police interventions[71]. This phenomenon is called "sousveillance," "reverse surveillance" or "surveillance from below."

Even in the commercial context, the telephone undermines the traditional balance of power by reducing information asymmetry and the historically weaker party's lack of market knowledge[72]. In developing countries, for example, the wireless telephone allows local producers to adjust the wholesale price of their products (coffee, cocoa, etc.) on a daily basis according to market fluctuations[73].

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[66] LASEN, A. *History Repeating? op. cit.,* note 18, p. 31; ARONSO, S. H. "Téléphone et société," *op. cit.,* note 34, p. 18.
[67] VIVIDATA. Capturing the media and purchasing habits of Canadians amidst a pandemic: Vividata's Winter 2021 Survey of the Canadian Consumer, February 18, 2021, online: https://vividata.ca/press_release/capturing-the-media-and-purchasing-habits-of-canadians-amidst-a-pandemic-vividatas-winter-2021-survey-of-the-canadian-consumer/
[68] STEWART, D. *Global Consumer Mobile Survey Results 2019*, Deloitte, online: https://www2.deloitte.com/ca/en/pages/technology-media-and-telecommunications/articles/gmcs-canadian-edition.html; MALIK, A. *64 percent of Canadians use their phone to watch online video: study*, Mobilesyrup, June 26, 2019, online: https://mobilesyrup.com/2019/06/26/64-percent-canadians-use-phone-watch-online-video/
[69] KEYS, B. *The telephone and its uses in 1980S U.S. Activism*, Journal of Interdisciplinary History, vol. 48, No. 4, 2018, pp. 486-488; KEYS, B. Were we wrong to give up the landline?," ABC, March 4, 2018, online: https://www.abc.net.au/news/2018-03-05/landlines-vs-mobile-phones-were-we-wrong-to-give-up-land-line/9508500
[70] LING, R. Taken for Grantedness, *op. cit.,* note 42, p. 132; KEYS, B. The telephone and its uses in 1980S U.S. *op. cit.,* note 69, p. 485.
[71] GOGGIN, G. and CLARK, J. "Mobile Phones and Community Development: A Contact Zone between Media and Citizenship," *Development in Practice*, vol. 19, No. 4/5, 2009, p. 593.
[72] BHAVNANI, A. *et al. The role of cell phones in sustainable rural poverty reduction*, World Bank (ICT Policy Division), 15 June 2008, p. 16, online: https://documents1.worldbank.org/curated/en/644271468315541419/pdf/446780WP0Box321bile1Phones01PUBLIC1.pdf
[73] GOGGIN, G. and CLARK, J. "Mobile Phones and Community Development," *op. cit.,* note 71, p. 589. The residential telephone had this same function for North American farmers in the 20th century: RENS, J.-G., *The invisible empire*, *op. cit.,* note 7, p. 339.

1.1.7 A Research Tool

The telephone has also made a significant contribution to the advancement of research in several areas. The first telephone surveys were conducted in 1929 by George Gallup, founder of the American Institute of Public Opinion[74]. This new practice facilitated the work of researchers and considerably reduced costs: There was no need to travel to remote areas to conduct face-to-face interviews.

The use of telephone surveys really became popular in the late 1960s, when residential telephone subscription levels were more significant. Surveys were first used in academia and in the public health and commercial (marketing) sectors[75]. All sectors eventually used surveys, particularly governmental organizations. The latter were strongly encouraged to do so as the size of government expanded and more social programs were put in place. The telephone survey is seen as a way to keep bureaucrats (located in major centres) informed about the realities and needs of the population[76].

From the 1970s to the 2000s, the telephone survey was considered to be the most important data collection method in Western countries[77]. Researchers have adapted and developed their collection and sampling techniques according to the device and its use in society (e.g., random telephone number generators, computer-assisted telephone interviews). It is worth noting that many surveys are now conducted via the Internet, given the additional cost reduction afforded by this medium through self-administration of tests by respondents[78].

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[74] The development of telephone interviewing as a tool in marketing research: A survey of the literature. 16, No. 3, 1985, p. 146.
[75] NATHAN, G. "Telesurvey Methodologies for Household Surveys – A Review and Some Thoughts for the Future," Survey Methodology, vol. 27, No. 1, June 2001, p. 8, online: https://www150.statcan.gc.ca/n1/en/pub/12-001-x/2001001/article/5851-eng.pdf?st=hv0kIGN5
[76] GROVES, R. M. "Three eras of survey research," *The Public Opinion Quarterly*, vol. 75, No. 5, 2011, pp. 864-865, online: https://www.uvm.edu/~dguber/POLS234/articles/groves.pdf
[77] NATHAN, G. "Telesurvey Methodologies," *op. cit.,* note 75, p. 9.
[78] GROVES, R. M. "Three eras of survey research," *op. cit.,* note 76, p. 867.

CHRONICLE OF A DEATH FORETOLD FOR RESIDENTIAL TELEPHONY

chapter 2

The considerable contribution of telephony to society has been felt since the appearance of the telephone, which was necessarily connected to a fixed line. But this contribution has since been strongly renewed by the deployment of wireless telephony services, which are now much more popular among consumers here and elsewhere. This leads some to question the future of the good old fixed-line telephone, especially in the residential context (as opposed to business subscriptions, where demand has remained more stable).

In 2007, CBC ran a headline on the question: "Will Canadians' love affair with landlines last?[79]" A review of articles published in the following years[80] tends to offer a rather negative answer to this famous question about the future of the landline.

> "Is it the end of the line for the landline?" (2010, Toronto Star)
>
> "Why Canadians are hanging up on their landline phones" (2014, Financial Post)
>
> "Isn't it time you cut your landline?" (2020, Globe and Mail)
>
> "This is how the landline phone will die" (2021, Wired).

But the reality is more complex than those titles might suggest. So in this chapter we explore the current state of residential services in this country and the many signs of its eventual demise, perhaps slower than one might have initially thought.

2.1 The Current State of the Fixed Telephony Services Market

Fixed telephony has been present in Canada for over a century and a half. Its deployment, its offer and its adoption by Canadian consumers have evolved considerably during this long period. Here is what fixed telephony looks like today in Canada.

According to the latest CRTC data, there are 17.5 million fixed-line subscriptions (residential and business) in Canada. The vast majority of these are wireline telephony subscriptions (13.3 million), plus just over 4 million subscriptions to a standard IP telephony service[81] and approximately 850,000

[79] Tomlinson, N. *Future of phones – Will Canadians' love affair with landlines last*, CBC, November 23, 2007, online: https://www.cbc.ca/news2/background/tech/cellphones/future.html
[80] LEVY, C. *Is it the end of the line for the landline?* Toronto Star, September 19, 2010, online: https://www.thestar.com/business/2010/09/19/is_it_the_end_of_the_line_for_the_landline.html; Greenwood, J. *Why Canadians are hanging up on their landline phones*, Financial Post, June 24, 2014, online: https://financialpost.com/technology/why-canadians-are-hanging-up-on-their-landline-phones; Carrick, R. *Isn't it time you cut your landline?* Globe and Mail, January 9, 2020, online: https://www.theglobeandmail.com/investing/personal-finance/household-finances/article-isnt-it-time-you-cut-your-landline; BERNAL, N. *This is how the landline phone will die*, Wired UK, September 28, 2021, online: https://www.wired.co.uk/article/landline-phone-network-death.
[81] CRTC. *Communications Market Reports – Open Data*, Tables SLI4 and SLI10, online: https://crtc.gc.ca/fra/publications/reports/PolicyMonitoring/cmrd.htm

subscriptions to an IP service independent of access to a dedicated network[82]. The latter service is more marginal and will be discussed further in section 4.1.2. It should be noted that it is offered by non-traditional providers, who have no control over the Internet access network that allows calls to be sent and received. And unlike reseller providers, network-independent IP service providers don't even have a relationship with the incumbent infrastructure provider.

In 2018, the average basic wireline phone subscription in Canada cost between $25 and $51, depending on the region[83]. In its monitoring report on monthly prices at the end of 2019, the CRTC cited an average of $34.18[84]. Saskatchewan has the lowest prices whereas Ontario and the Maritimes have the highest. Unfortunately, the Wall Report and the CRTC don't publish data on the prices of other residential telephone services (IP type). It should be pointed out that those services are generally offered at lower prices than wireline telephony, as shown in our analysis in Chapter 4.

Overall, the home phone services market was worth about $6.2 billion in 2020, according to the CRTC's most recent market report[85]. But there is some disagreement about those numbers, and some argue that they are grossly understated. The most recent report by the Global Media and Internet Concentration Project, based at Carleton University and grouping some 50 researchers from around the world, puts the figure at $12.9 billion for that same year[86]. However, all agree on the fact that revenues have been declining for several years. We will come back to this.

Finally, we are dealing with highly concentrated markets. The revenues described above are mainly shared among a very small number of providers, even though residential telephone service is offered by a wide variety of providers through wholesale access. For example, while wireline subscriptions from Bell, Telus, Rogers, Shaw and Videotron account for just 49% of total subscriptions, they still generate 93% of retail revenues in this sector[87].

The current situation contrasts with that of the 1980s and 1990s, when levels of concentration in the wireline telephony market declined significantly with the entry of promising new players[88]. But several elements have slowed and eventually reversed this trend beginning in the 2000s, including:

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[82] CRTC. *Communications Market Reports – Highlights […] 2020*, *op. cit.,* note 6, p. 30, online: https://crtc.gc.ca/pubs/cmr_telecom_2021-en.pdf

[83] WALL COMMUNICATIONS INC., *Price Comparisons of Wireline, Wireless and Internet Services in Canada and with Foreign Jurisdictions, 2018 Edition*, p. 19 and fol. Online: https://ised-isde.canada.ca/site/strategic-policy-sector/sites/default/files/attachments/2022/telecom2018e.pdf. Prices considered by Wall include access line and other charges (long distance, optional feature charges (e.g., voicemail and call display) and other recurring charges (e.g., 911 service, network access charges, etc.). The amounts quoted are those applicable to Level 1 service – including charges for a very low number of long distance minutes and no optional features. Wall's report notes that the cost of Level 1 services has increased since 2013 at an annual rate of 4.3%, while Level 3 services (more frequent long distance usage and full range of optional features) have increased by only 1.2% over the same period. The wireline telephony category has not been included in reports prepared for Innovation, Science and Economic Development Canada since the 2018 study.

[84] CRTC. *Communications Monitoring Report 2020*, Table 5.1, online: https://crtc.gc.ca/eng/publications/reports/policymonitoring/2020/cmr5.htm

[85] CRTC. Communications Market Reports – Highlights… 2020, *op. cit.,* note 6, p. 29.

[86] WINSECK, D. *Media and Internet Concentration in Canada, 1984-2020*, Global Media and Internet Concentration Project, 2021, p. 65, online: http://www.cmcrp.org/wp-content/uploads/2021/12/GMICP-Concentration-Report-Canada-2021-17122021.pdf

[87] *Ibid.* pp. 66-67.

[88] TYHURST, J. S. Monopoly Lost? The Legal and Regulatory Path to Canadian Telecommunications Competition, 1979-2002, Ottawa Law Review, vol. 33, No. 2, 2002, p. 387, online: https://www.canlii.org/en/commentary/doc/2002CanLIIDocs26; WINSECK, D. Media and Internet Concentration in

- The bankruptcy of several small providers following the collapse of the Internet bubble;
- Decreased demand for wireline telephony services, thus making the service less attractive to less established providers;
- The rise of bundled service offerings by large providers (coupled with greater simplicity and lower prices for consumers)[89].

2.2 Residential Telephony: a Service Increasingly Unpopular Among Consumers

With 17.5 million subscriptions and sales of more than $6 billion, one might think that residential telephony is doing quite well. However, it has been on the decline for several years now. Among the most credible signs of the eventual end of residential telephone services is the continued decline in demand by Canadian consumers.

While wireless telephony is growing steadily in terms of subscriptions (with the exception of the year 2020, for which the exceptional decline is attributed to the negative impact of COVID-19), the opposite is true for fixed telephony services, and mainly for wireline services. This decline in subscriptions has actually been relatively stable for more than a decade. Between 2013 and 2017, for example, the average annual (compound) decline rate of Canadian households subscribing was more than 5%[90].

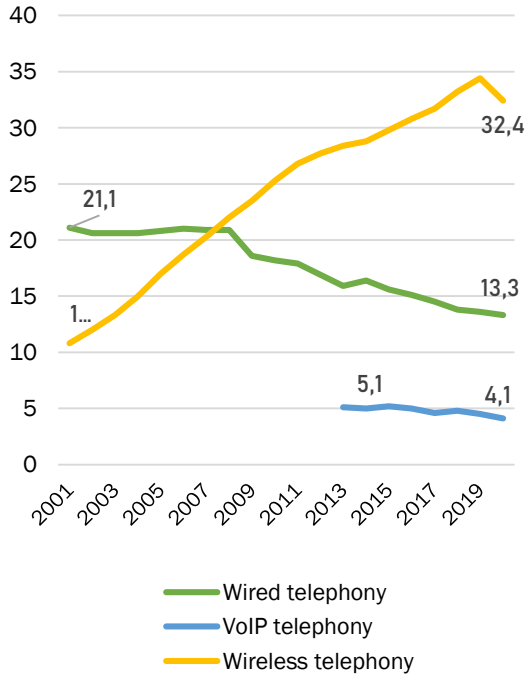
Canada, 1984-2020, Global Media and Internet Concentration Project, 2021, p. 37, online: http://www.cmcrp.org/wp-content/uploads/2021/12/GMICP-Concentration-Report-Canada-2021-17122021.pdf

[89] WINSECK, D. Media and Internet Concentration in Canada, *op. cit.,* note 86, p. vi.

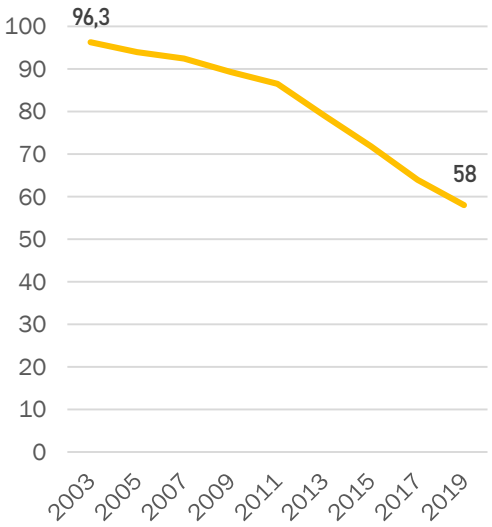
[90] CRTC. Communications Monitoring Report 2019, p. 54, Table 1.3, online: https://crtc.gc.ca/pubs/cmr2019-en.pdf

Table 1

Evolution of wireline, VoIP and wireless subscriptions in Canada (in millions)[91]



Evolution of the percentage of Canadian households subscribing to wireline telephony[92]



* VoIP telephony data is no longer available for the period prior to 2013.

The decline in fixed-line subscriptions is mainly felt in wireline services. Residential subscriptions are the most affected by this decline. Business subscriptions, while declining, remain more stable, which can be explained by some business equipment compatibility issues, which we will discuss in section 3.6 of this report. Between 2013 and 2020, the number of residential subscriptions decreased by nearly 25 percent compared to only 14 percent for business packages[93].

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[91] CRTC. *Communications Market Reports – Open Data*, *op. cit.,* note 81, tables MB-S5, SLI4 and SLI10, CRTC. CRTC Communications Monitoring Report, October 2014, pp. 161 and 163, online: https://publications.gc.ca/collections/collection_2014/crtc/BC9-9-2014-fra.pdf; CRTC. Communications Monitoring Report 2009, August 2009, pp.217 and 254, online: https://publications.gc.ca/collections/collection_2009/crtc/BC9-9-2009F.pdf; CRTC. CRTC Telecommunications Monitoring Report – Status of Competition in Canadian Telecommunications Markets, July 2006, pp. 30 and 87, online: https://publications.gc.ca/collections/Collection/BC92-57-2006F.pdf

[92] CRTC. CRTC Communications Monitoring Report, October 2014, p. 15, online: https://publications.gc.ca/collections/collection_2014/crtc/BC9-9-2014-eng.pdf; CRTC. Communications Monitoring Report 2018, p. 24, online: https://crtc.gc.ca/pubs/cmr2018-en.pdf; CRTC. *Communications Market Reports – Open Data*, *op. cit.,* note 81, Tables MG-6 and SLI4.

[93] CRTC. Communications Market Reports – Open Data, *op. cit.,* note 81, Table SLI4.

The Canadian situation and that of other Western countries

Although fixed telephony is undeniably losing ground here in Canada, the situation here is much less dramatic than in other Western countries. More than half of Canadian households still subscribe to residential telephone service. In the U.S., only 37% of households have such a service[94]. Subscriptions in Australia are also below the 40% mark[95]. Some European countries stand out even more, with 80% to 90% of households now using only wireless telephony[96]. Nearly half of Czechs and Finns no longer had a landline phone at home… as of 2007[97]!

The Canadian situation differs from that of other Western countries because of the structure and state of competition in Canada's communications services market. All wireless service providers in Canada are vertically or diagonally integrated with communications and media conglomerates. This means that the providers are integrated with entities that own or are associated with businesses that also offer other telecommunications services, including fixed telephony[98]. Other countries have very popular stand-alone providers, such as T-Mobile or Vodafone[99]. Not Canada. In this context, it is not in the interest of Canadian providers to make wireless telephony services so attractive (in terms of price and availability, for example) that their subscribers would be encouraged to abandon their fixed-line service as well.

> *Diagonally integrated companies often manage demand, rivalry and prices across each of their "platforms" in a way that aims to ensure that whatever one branch of the company does it does not cannibalize the revenue of another*[100].

In an effort to maintain a customer base for their traditional telephony services, Canadian providers have tended to integrate those services into bundled offerings, rather than pit them against wireless services[101].

2.3 Residential Telephony: a Service out of Favour with the CRTC

While the choice of Canadian consumers to turn to other telephone services and technologies is a clear indication of the foreseeable, slow, but very real end of residential telephony, it is not the only one. Far

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[94] VORHAUS, M. *Americans Use Their Mobile Phone To Replace Their Landline Phones*, Forbes, May 14, 2021, online: https://www.forbes.com/sites/mikevorhaus/2021/05/14/americans-use-their-mobile-phone-to-replace-their-landline-phones/?sh=7d761ae68cc4
[95] ACMA. *Mobile-only Australia: living without a fixed line at home*, June 2021, online: https://www.acma.gov.au/publications/2020-12/report/mobile-only-australia-living-without-fixed-line-home
[96] LINK, T. *More than half of U.S. households have ditched landline phones*, LA Times, June 6, 2018, online: https://www.latimes.com/business/technology/la-fi-tn-landline-cellphone-20180606-story.html
[97] *18% of EU households cut landlines*, The Irish Times, November 27, 2007, online: https://www.irishtimes.com/news/18-of-eu-households-cut-landlines-1.815429
[98] WINSECK, D. *Media and Internet Concentration in Canada, 1984-2020*, Global Media and Internet Concentration Project, 2021, p. 65, online: http://www.cmcrp.org/wp-content/uploads/2021/12/GMICP-Concentration-Report-Canada-2021-17122021.pdf
[99] *Ibid.,* p. 129
[100] *Ibid*.
[101] GREENWOOD, J. *Why Canadians are hanging up on their landline phones*, Financial Post, June 24, 2014, online: https://financialpost.com/technology/why-canadians-are-hanging-up-on-their-landline-phones

from it. Some of the CRTC's regulatory choices are just as revealing of the devaluation of wireline telephony and, more broadly, of residential telephony in Canada.

Historically, the CRTC has focused its interventions on three main regulatory measures: a basic service objective, an obligation to serve and, at the same time, a subsidy regime for the deployment and maintenance of an adequate supply. Those three measures initially focused on providing all consumers with access to residential telephone service[102].

As of 1999, the CRTC therefore required providers to offer residential telephone service to Canadian consumers, within certain limits that we will discuss in the fourth chapter. In return, the CRTC introduced a local service subsidy scheme to ensure the provision of service in high-cost serving areas (HCSA), i.e., in rural or isolated areas that it would be less profitable to serve[103]. Providers offering telephone service in these areas are entitled to a subsidy that takes into account, among other things, the costs incurred in providing their service and the rate (still regulated, due to lack of adequate competition) paid by their subscribers[104]. In 2002, total subsidies under this scheme amounted to almost $50 million[105].

But in 2016, after several years of questioning the future of those subsidies, the CRTC finally realigned its basic service policy. The regulator's interest in other telecom services was particularly noticeable, as it decided to focus its policy more on the participation of all Canadians in the digital economy and on what it called “modern telecom services.” It added broadband Internet access and wireless telephone services to its basic service objective, and at the same time announced changes to the distribution of subsidies.

> *[…] the Commission has a role in setting policies that will assist in expanding the availability and adoption of broadband Internet access services. Accordingly, the Commission will begin to shift the focus of its current regulatory frameworks from wireline voice services to broadband Internet access services. In particular, to support continued access to broadband Internet access services in underserved areas, the Commission intends to phase out the local service subsidy regime and to establish a new funding mechanism for broadband Internet access services*[106].

The CRTC established the Broadband Fund to finance the service’s deployment and announced the end of subsidies for residential telephony in HCSAs as of 2021[107]. In support of its decision, the Commission argued that providers can now offer other types of telephony service, such as IP telephony, in those areas and that it is no longer necessary to fund so-called traditional telephony access to ensure access to basic service.

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[102] CRTC. *Telecom Regulatory Policy CRTC 2016-496*, par. 2; CRTC. Telecom Decision CRTC 99-16
[103] A contribution regime for the funding of basic local residential services by providers in the long distance market has existed since 1992: CRTC. Decision CRTC 2000-745, par. 4.
[104] CRTC. Telecom Regulatory Policy CRTC 2018-213, par. 3.
[105] CRTC. Communications Market Reports – Highlights […] 2020, *op. cit.,* note 6, p. 16.
[106] CRTC. Telecom Regulatory Policy CRTC 2016-496, par. 51.
[107] CRTC. Telecom Regulatory Policy CRTC 2018-213.

2.4 Residential Telephony and Wireline Telephony: Services Neglected by Providers

It's not just the CRTC that is aggressively pursuing alternative telephony services. Providers are doing the same, concentrating their marketing efforts and the bulk of their investments on the provision and development of their wireless services. It must be said that these services have become much more profitable.

One reason is that wireline telephony requires capital expenditures – those related to network maintenance or upgrades – that are far greater than those required to offer wireless services. In 2020, providers invested $8.6 billion in their wireline infrastructure, three times as much as in wireless[108]. It is true that wireless providers must invest in deploying their respective wireless networks and purchasing spectrum licences, for the radio frequencies that enable the sending and receiving of wireless signals[109]. The providers invested $7.32 billion for this purpose between 2014 and 2020[110], which is certainly significant, but still less than a single year's worth of capital expenditures on wireline networks!

Another reason is that wireless EBITDA margins – earnings before interest, taxes, depreciation and amortization – are about 10 percent higher than wireline ones[111]. In 2020, wireless services generated $26.8 billion in profits, representing more than half of the telecommunications industry's total retail revenues. In comparison, wireline revenues now account for only 10% of total revenues[112]. And they are declining significantly, year after year[113]. The average revenue per subscription for wireless services is also much higher: $67/month versus $26/month for fixed-line services[114].

In this context, it is not surprising to see that the country's major telephone providers are placing considerably more emphasis on wireless services in their advertising and in the presentation of their services online or in stores. Home phone services are no longer really promoted by these same providers. And while they used to be regularly included in bundled service offers (subscriptions sometimes referred to as “packages”), residential telephony services now seem to be excluded from this type of offer (limited to cable television and Internet access services) by the country's largest national and regional providers. However, a few independent providers still offer bundling with other services.

Technological changes in the cards

Beyond the way they offer and present telephony services, providers are rethinking the technologies through which they deliver these services. Some providers are progressively abandoning portions of their wireline infrastructures in the country. Examples of that are becoming more and more frequent.

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[108] CRTC. Communications Market Reports – Highlights [...] 2020, *op. cit.,* note 6, p. 17.
[109] LIBRARY OF PARLIAMENT. Understanding Spectrum Management in Canada, HillNotes, May 10, 2021, online: https://hillnotes.ca/2021/05/10/understanding-spectrum-management-in-canada/
[110] CRTC. Communications Market Reports – Highlights [...] 2020, *op. cit.,* note 6, p. 21.
[111] *Ibid.*, p. 20.
[112] *Ibid.,* p. 22.
[113] Between 2015 and 2020, the compound annual decline rate was 5.6%: CRTC. *Communications Market Reports – Highlights [...] 2020*, *op. cit.,* note 6, p. 29.
[114] CRTC. Communications Market Reports – Open Data, *supra* note 81, Tables SLI6 and MB-G12.

National provider Telus, for example, has announced that it will complete the abandonment of its wireline network with the transfer of remaining customers to its new fibre network by early 2023. Subscribers who have not already done so will necessarily switch, if they remain with Telus, to IP telephony services (for the same price). The provider presents its process, which began nearly 10 years ago, as follows:

> *The company initially focused on serving new customers who wanted its fiber products and "kind of left behind" existing subscribers who were content with their copper service. Its migration program is now "revisiting those customers to see if the circumstances and needs have changed*[115]*."*

There is very little public information about the provider's actions. The few comments from subscribers on forums and social media paint a mixed picture of their interactions with the provider. Some are pleased with the simplicity and speed of the transfer process, but others are highly critical of the pressure of an initial refusal and the lack of information available about the upcoming process and the impacts of the change[116].

Bell, which has the largest wireline infrastructure in the country, may be tempted to do the same. Bell is also investing heavily in the deployment of a parallel fibre network and has publicly pointed out the poor condition of the wireline infrastructure available in some parts of the country (e.g., in the Winnipeg area in 2022[117]). A 2017 Global News article notes that the provider is already shifting customers (sometimes unwittingly, even against their will) to its IP telephony services when they opt for fibre-based Internet access service[118].

Even when wireline service remains available, there are changes in the offering. Rogers, for example, has had a specific offering since 2016, aimed at small businesses that want to switch from a wireline to wireless subscription while maintaining some of the features traditionally associated with the former[119].

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[115] GOOVAERTS, D. *Canada's Telus is on track to retire its copper network by early 2023*, Fierce Telecom, 10 November 2021, online: https://www.fiercetelecom.com/operators/canada-s-telus-track-to-retire-its-copper-network-by-early-2023

[116] See for example: "TELUS is making my grandparents switch their copper phone line to a PureFibre one. How big is the hassle?," Reddit, 2021 conversation, online: https://www.reddit.com/r/vancouver/comments/qty6ef/telus_is_making_my_grandparents_switch_their/; "PureFibre installation harassment," Telus Forum, 2019, online: https://forum.telus.com/t5/Internet-Home-Phone/PureFibre-installation-harrassment/td-p/98170

[117] KEELE, J. *Bell MTS reveals cause of faulty landline services in Manitoba*, CTV News, May 24, 2022, online: https://winnipeg.ctvnews.ca/bell-mts-reveals-cause-of-faulty-landline-services-in-manitoba-1.5917139

[118] O'SHEA, S. *'Kind of a life and death thing': Toronto man loses Bell landline, service to be restored*, Global News, May 29, 2017, online: https://globalnews.ca/news/3487865/bell-landline-copper-telephone-service/

[119] MCINTYRE, C. *Why It May Be Time to Cut the Landline*, Canadian Business, July 19, 2016, online: https://archive.canadianbusiness.com/innovation/why-it-may-be-time-to-cut-the-landline/

THE SOCIO-ECONOMIC IMPACTS OF THE END OF WIRELINE TELEPHONY IN CANADA
chapter 3

Relatively little has been written about the potential impacts of a wireline telephony shutdown. In fact, residential telephony, more broadly, has been the subject of a surprisingly small amount of study by researchers and academia, unlike wireless telephony, for example.

In the following section, we will attempt to draw a portrait of the main concerns that this situation raises from a consumer protection perspective, based on the various sources available. The limitations and risks related to the economic and geographic accessibility of alternative services will be addressed in Chapter 4, where we analyze those services in more detail.

3.1 Who Still Uses Wireline Telephony Today?

Just over half of Canadian households still have a residential telephone subscription. In some cases, the members of these households also have individual wireless telephone subscriptions, but in other cases – just under 10% of Canadian households, according to the most recent data available[120] – they rely entirely on fixed telephony.

In general, households that still subscribe to residential telephony are distinguished by certain socio-demographic characteristics. Data from the United Kingdom, the United States and Australia – three countries with telecommunications markets similar to Canada's – show an over-representation of the following types of consumers:

- Older consumers[121];
- Less educated consumers[122];
- Low-income consumers[123];

[120] CRTC. *Communications Monitoring Report 2019*, p. 26, online: https://crtc.gc.ca/pubs/cmr2019-fr.pdf
[121] For example, 40% of British consumers who subscribe only to residential telephony are over 75: OFCOM. *Review of the market for standalone landline telephone services,* statement, October 26, 2017, p. 8, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0015/107322/standalone-landline-statement.pdf; similarly, in the United States, only consumers from the silent generation (i.e., born no later than 1927) spend more on average on their home phone service than on their wireless service: US BUREAU OF LABOR STATISTICS. "Are most Americans cutting the cord on landlines?," *Beyond the numbers*, vol. 8, No. 7, May 2019, online: https://www.bls.gov/opub/btn/volume-8/are-most-americans-cutting-the-cord-on-landlines.htm
[122] In Australia, for example, only 32% of consumers with a university education have a home phone subscription, compared to 51% of those with a high school or technical degree: ACMA. *Mobile-only Australia: living without a fixed line at home*, interactive report, June 2021, p. 8, online: https://www.acma.gov.au/publications/2020-12/report/mobile-only-australia-living-without-fixed-line-home
[123] For example, one third of British households that subscribe only to residential telephony are in the lowest socio-economic group: OFCOM. *Review of the market for standalone landline telephone services,* statement, *op. cit.,* note 121, p. 11.

- Consumers with disabilities[124].

When asked about this, a higher proportion of consumers who subscribe to residential telephony describe themselves as being not very or not at all comfortable with technology than subscribers to other services[125]. They are also less mobile on the telecommunications services market. For example, 77% of UK households that only subscribe to home telephony have never switched service providers[126].

There is no such detailed picture of residential telephone subscribers in Canada. Statistics Canada likely has much of this information, but it has not published a document on the subject of residential telephony for several years. The CRTC publishes an annual report on the communications services market. In some years, it notes socio-demographic trends among subscribers of the various services. Based on this data and the data obtained from our cross-Canada survey (discussed in Chapter 5), we find that the subscriber vulnerabilities described above are equally applicable to the Canadian context.

For example, a 2019 CRTC report notes that while 99% of Canadian households own a phone, the distribution of subscriptions is still very uneven. Nearly a quarter of low-income households (first income quintile) rely exclusively on a wireline telephone service, compared to barely 2.4% of the most affluent households (fifth quintile)[127]. It should also be noted that residents of Quebec and the Eastern provinces are more likely to subscribe to wireline services than those of Ontario and the West. For example, more than 80% of households in New Brunswick still subscribed to them in 2017, compared to just 55% of households in Alberta[128]. We will return to those socio-demographic characteristics later.

3.2 Risks of Exclusion and Isolation

There is a risk of exclusion (real or perceived by the main stakeholders) if individuals who were previously subscribers to a wireline telephony service do not subscribe to an alternative telephony service following termination of the first service, for example because of a lack of financial resources or a discomfort with technology. This fear is exacerbated by the particular vulnerabilities of such subscribers.

The results of a 2018 California study tend to show that the mere presence of a phone, even if not used, reduces the risks and effects of social exclusion.

According to the lead author:

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[124] COMMUNICATIONS CONSUMER PANEL. Communications Consumer Panel and ACOD response to Ofcom's consultation on its review of the market for standalone landline telephone services, May 9, 2017, p. 2, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0026/102869/ccp-acod.pdf

[125] COMMUNICATIONS CONSUMER PANEL. Communications Consumer Panel and ACOD response to Ofcom's consultation on its review of the market for standalone landline telephone services, May 9, 2017, p. 2, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0026/102869/ccp-acod.pdf

[126] OFCOM. Review of the market for standalone landline telephone services, statement, *op. cit.,* note 121, p. 8.

[127] CRTC. Communications Monitoring Report 2019, *op. cit.,* note 120, p. 29.

[128] *Ibid*, p. 30.

> *Phones serve as symbols of an individual's larger personal network [...] When people can shift their attention away from environmental stressors toward the symbolic connections offered by their phones, it may mitigate feelings of isolation and can provide a sense of security*[129].

That recent study supports the results of a 1975 study of consumers who experienced a month-long service outage on Manhattan Island as a result of a fire[130]. Despite their urban location, the consumers felt isolated. Their increased consumption of media (television and radio) did not satisfactorily replace their recourse to telephony (or its simple presence in their lives), mainly because of the feeling of "symbolic proximity of the entourage" strongly associated with the telephone.

3.3 Health and Safety Risks

A transfer from wireline residential telephony to IP telephony could also have certain repercussions in terms of user health and safety. To be clear: IP telephony is generally quite secure. But the fact that it does not work during a power failure (usually) or an Internet network failure distinguishes it from wireline telephony. This obviously limits consumers' access to emergency services in those situations. They will be able to use a wireless service, if they also have a subscription to this type of service, but if they only have IP residential telephony, they will not be able to make this sometimes vital call.

Even in the absence of an outage, accessing emergency services using an IP telephony service remains more complex than with wireline telephony since the call will not be initially located. The subscriber will have to give his address to an operator, usually from a third-party operator[131], who will then route him to the nearest public safety call centre[132]. The emergency response time may therefore be slightly longer. There is also a risk that the address on file with the IP service provider may no longer be accurate (e.g., due to a move) and that the address on file will be automatically forwarded during the initial screening of calls[133].

> *Obtaining accurate location information continues to be the most pressing concern among public safety groups, as does the increased use of alternative technologies. Regulations imposed on VoIP service providers...have helped to improve matters, but questions remain about the accuracy of this information*[134].

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[129] *Smartphones act as digital security blankets in stressful social situations*, UCI News, August 7, 2018, online: https://news.uci.edu/2018/08/07/smartphones-act-as-digital-security-blankets-in-stressful-social-situations/
[130] WURTZEL, A. H. and TURNER, C. *What Missing the Telephone Means*, Journal of Communication, vol. 27, No. 2, 1977.
[131] For example, Rogers refers to a "specialized emergency call centre" in its terms and conditions: ROGERS. *Wi-Fi Calling Terms and Conditions*, s. 6(B), online: https://www.rogers.com/support/terms/wi-fi-calling-terms-and-conditions (consulted on March 28, 2022).
[132] CRTC. Evaluation of Payphone Alternatives and Payphones in Emergency Preparedness, March 25, 2014, online: https://crtc.gc.ca/eng/publications/reports/rp150226.htm
[133] ROBERTSON, G. Canada's 9-1-1 emergency, Globe and Mail, 19 February 2018, online: https://www.theglobeandmail.com/technology/canadas-9-1-1-emergency/article560927/
[134] CRTC. Evaluation of Payphone Alternatives, 5.6.3, *op. cit.,* note 132. See also section 5.5.5 VoIP.

3.4 Technical and Organizational Changes to Be Expected

In analyzing the impact of a transition from wireline telephony to other telephony technologies, it is important not to lose sight of the other uses of the networks involved. The wireline network enables much more than "just" making and receiving calls.

Many devices that require communication between multiple low-speed machines were developed and deployed using the wireline network in the 1980s and 1990s[135]. The operation of those devices does not necessarily require a subscription to a wireline telephone service, but it does require a connection to the network at the very least. It is thus appropriate to question the impact of a technological transition in telephony that would imply the cessation or withdrawal of networks for the future of uses that are sometimes essential to society.

Many organizations have been interested in this issue over the past few years. The concerns that arise are generally more associated with the smooth running of businesses, but some of them can also greatly affect consumers. The *Fédération Française des Télécoms* and a working group set up by the British communications regulator, Ofcom, have identified the various types of devices and uses that could be affected by the loss of the wireline network[136]. Here are some of the items identified:

- Telemedicine devices
  Many remote medical monitoring, remote assistance and remote medical alert devices require a wireline network connection for real-time data transmission. Similarly, some devices must be connected for regular remote verification of their operation. This is the case, for example, with certain pacemakers, whose battery is normally checked four times a year, three of which are done remotely, automatically[137]. According to a (small) pilot project in England in 2019 and 2020, about 1% of British wireline subscribers may have a telemedicine device connected to the network[138].

- Card payment terminals
  Many card payment terminals are currently connected to the wireline network. In France, for example, it is estimated that 60% of independent (small retail) businesses use terminals that rely on the wireline network[139]. It should be noted, however, that newer terminals are usually also equipped with an IP function.

- Monitoring and alarm systems

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[135] FÉDÉRATION FRANÇAISE DES TÉLÉCOMS (FFT). *Transition du RTC vers la voix sur IP*, Livre blanc - Recommandations du groupe de travail de la Fédération Française des Télécoms, 2017, p. 2, online: https://www.fftelecoms.org/app/uploads/2017/05/Livre-blanc-FFTelecoms-Fin-du-RTC-1.pdf
[136] OFCOM. All-IP Working Group, PowerPoint presentation at the September 24, 2019 meeting, p. 5, online: https://www.uktelehealthcare.com/wp-content/uploads/2019/10/All-IP-Voice-Technical-Working-Group-240919.pdf; FFT, *Transition from PSTN to VoIP*, *op. cit.,* note 135, p. 3.
[137] DUNLAP, B. *Home heart monitors changing to cell phone technology*, The Parkersburg News and Sentinel, December 4, 2016, online: https://www.newsandsentinel.com/news/business/2016/12/home-heart-monitors-changing-to-cell-phone-technology/
[138] OFCOM. All-IP Working Group, PowerPoint presentation, *op. cit.,* note 156, p. 44.
[139] FFT, Transition du RTC vers la voix sur IP, *op. cit.,* note 135, p. 14.

Many monitoring and alarm systems require a connection to the wireline network, which allows them to receive test "calls" on a regular basis and make calls to a central system when an incident is detected[140]. In France, it is estimated that 70% of remote monitoring stations currently require a connection to the wireline network[141].

- Elevators
  Elevator remote alarm systems for reporting a problem from the car depend in many cases on the wireline network. This type of alarm, used on average once or twice a year, is mandatory[142]. It is estimated that about half of the UK's elevators are currently connected to the wireline network for this purpose[143].

- Fax machines
  Even if they are often perceived as an outdated technology, fax machines are still very present in many businesses, services and companies. However, many use the wireline network to transmit and receive documents.

Since some of the devices involved have a long lifespan, replacing them in the event of incompatibility with a new telephone network could be particularly problematic. For example, a surveillance and alarm system has a lifespan of between 20 and 25 years in a residential context and about 10 years in a commercial context[144]. Replacing it prematurely could therefore be costly; in addition to purchasing a new system, the costs of acquiring the old system would have to be spread over a shorter period of time than anticipated.

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[140] EDHOLM, p. *Good Old POTS is Going Away. Is Your Organization Prepared?* No Jitter blog (Enterprise Connect), January 31, 2022, online: https://www.nojitter.com/technology-trends/good-old-pots-going-away-your-organization-prepared
[141] FFT, Transition du RTC vers la voix sur IP, *op. cit.,* note 135, p. 14.
[142] KEYO COMMUNICATIONS. *White Paper: Expert Insights on the CTR Shutdown*, 2017, p. 42, online: http://www.gpmse.com/wp-content/uploads/2017/06/Livre-blanc-Keyyo-arr%C3%AAt-du-RTC.pdf
[143] BARKER, G. *What is happening to lift communications in the UK, and what do you need to do about it?* Cundall, February 15, 2022, online: https://www.cundall.com/ideas/blog/what-is-happening-to-lift-communications-in-the-uk-and-what-do-you-need-to-do-about-it
[144] FFT, Transition du RTC vers la voix sur IP, *op. cit.,* note 135, p. 15.

ALTERNATIVES TO WIRELINE TELEPHONY
chapter 4

4.1 Overview of Alternatives to Wireline Telephony

If wireline telephone services were to disappear, where would consumers looking for residential service turn? We will explore that in this section, with particular emphasis on the availability, affordability and user-friendliness of the various alternative services available, as well as their treatment of certain issues that are important to consumers (phone number retention, access to emergency services, etc.). The following services will be addressed:

- Standard IP residential telephony services
- Network-independent IP residential telephony services
- Wireless telephony services
- Wireless home phone services
- Online communication applications
- Prepaid phone cards

Our study shows that alternatives to wireline telephony are generally more affordable than wireline telephony, which costs an average of about $34.18/month in Canada[145]. The only exception to this rule is wireless telephony, which is by far the most popular option. It should also be noted that according to a CRTC study, alternatives to wireline telephony generally have a low or moderate level of complexity in installation or use, which is slightly higher than that associated with the first service[146].

4.1.1 Standard IP Residential Telephony Services

Since 2005[147], many communications service providers in Canada have been offering IP telephony (also known as VoIP, for Voice over Internet Protocol). Rather than using the analog infrastructure, this service uses a high-speed Internet connection from the subscriber's home to transmit calls. The voice is compressed, digitized and converted to digital data and then carried over the Internet.

Access to IP telephony is therefore dependent on the availability of a high-speed Internet connection, a type of connection that may not be available in some rural and remote areas. The most recent CRTC statistics show that 89.5% of the Canadian population has high-speed Internet access coverage[148]. It should be noted that the use of an IP telephony service does not generally require a subscription to an

[145] CRTC. *Communications Monitoring Report 2020*, Table 5.1, online: https://crtc.gc.ca/eng/publications/reports/policymonitoring/2020/cmr5.htm
[146] CRTC. Evaluation of Payphone Alternatives and Payphones in Emergency Preparedness, March 25, 2014, online: https://crtc.gc.ca/eng/publications/reports/rp150226.htm
[147] *Ibid*, section 3.2.
[148] CRTC. Communications Market Reports – Highlights [...] 2020, *op. cit.,* note 6, p. 29.

Internet access service per se, but only a possible connection from the home (approximately 68% of Canadian households currently subscribe to such a service[149]).

To use an IP telephony service, a consumer does not need to know or understand the relatively complex operation of this technology. Its use will be very similar to that of the wireline service. However, installation of the system requires some basic computer skills, first to connect the various components and then to configure the system. In order to continue to use their phone, consumers will have to connect it to a digital adapter[150], which looks like a modem.

Cable companies first offered this service, as they did not have their own wireline infrastructure; companies that used to offer traditional telephony, such as Bell, now also offer it, sometimes in conjunction with their wireline service. Many reseller (independent) providers offer it in combination with their Internet access service.

The prices of IP telephony services are as varied as the providers that offer them. They are generally lower than those of wireline telephony. In Quebec, for example, there are many offers at prices ranging from $10 to $20 per month (e.g.: Teksavvy: $9.95, Primus: $12, Bravo Telecom: $12.95, B2B2C: $14.95, VMedia and Ebox: $19.95[151]).

The use of an IP telephony service has some disadvantages over the use of a wireline phone. First of all, as we mentioned earlier, the service will not work in case of a power failure or an Internet access service failure. Subscribers will therefore lose the ability to make calls, including to emergency services. However, it is possible to purchase battery backups that allow the device to continue to operate for a period of time in the absence of power. But there is no solution when the failure affects the Internet access network.

It should also be recalled that apart from the issue of outages, access to emergency services by using an IP telephony service is a little more complex than with wireline telephony, since the call will not be initially located (see section 3.3 of this report).

Another disadvantage is that not all non-telephone devices historically developed and deployed over the wireline network (alarms, faxes, telemedicine, etc.) are compatible with IP technology, although newer products are more compatible. The compatibility of devices and the need to purchase new ones will be evaluated on a case-by-case basis, by contacting the devices' providers and the IP telephone service. It should also be noted that it is generally possible to transfer a telephone number from a wireline to an IP line.

4.1.2 Network-Independent IP Telephony Services

A sub-category of IP services are referred to as network independent (or access independent). The service operates much like a standard IP service; however, the provider does not have access to the

[149] *Ibid*.
[150] CRTC. Evaluation of Payphone Alternatives, *op. cit.,* note 156, section 3.2.
[151] Prices were identified on provider websites in March 2022.

Internet access network used or to the subscriber's own home facilities[152]. This type of independent provider also generally does not offer any other communication services.

Providers of this type of IP service are generally from the United States. Their offers cover calls made and received from Canada and the United States, which distinguishes them from the traditional offers of Canadian providers. However, we can see from some of their contracts that not all parts of the country are necessarily covered. For example, MagicJack, which claims to allow calls to and from Canada, does not in practice cover the Northwest Territories and Yukon (which they consider long distance)[153]. Some also apply different pricing or have a different country selection that will depend on the phone service (wireline, wireless or IP)[154] used by call recipients.

Prices for network-independent IP services vary, but are generally somewhat lower than for standard IP services, which, it should be remembered, are already much lower than for wireline services. However, network-independent IP services differ from standard IP services in that some packages are not offered on a monthly basis, and equipment may have to be purchased at the time of subscription (whereas it is usually provided free of charge or leased by standard IP service providers). This makes calculation of the services' actual cost services somewhat more complex. Here are some examples of basic offerings from independent IP service providers[155]:

- Ooma: free service (taxes and mandatory fees apply). Fees range from $90 to $160 for equipment.
- VoIPo: $149 US/2 years ($8 CDN/month). Free equipment.
- MagicJack: $43 US ($54 CDN)/year for service. 50-60 US ($62-75 CDN) for equipment.
- AXvoice: $8.25 US/month. Free equipment.
- 1-VoIP: $9 US ($11 CDN)/month. Free equipment.

It should be noted that the disadvantages or concerns described above for traditional IP telephony services apply equally to network-independent services (loss of service in the event of a failure, more-complex access to emergency services, and incompatibility with non-telephone devices). Also, it will likely be more difficult for consumers to retain their phone number, although some providers are beginning to offer this option.

4.1.3 Wireless Telephony Services

In recent years, the most popular alternative to wireline telephony has been wireless telephone service. There were no less than 32.4 million subscriptions to this service in Canada in 2020[156].

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[152] CRTC. *FAQ – Wireline local and access (21X)*, online: https://crtc.gc.ca/eng/dcs/current/faq_46.htm (consulted on March 28, 2022).
[153] MAGICJACK. *Subscriber Agreement for Products and Services*, art. 3(b), online: https://help.magicjack.com/faq/saps/?_ga=2.125399247.457541018.1647617361-959438478.1647024116 (consulted on March 18, 2022)
[154] For example, the provider Vonage.
[155] Prices were identified on provider websites in March 2022. Several prices are shown when providers offered several devices or when they offered short-term promotions at the time of data collection. Canadian price equivalents have been rounded.
[156] CRTC. *Communications Market Reports – Highlights [...]* 2020, *op. cit.,* note 6, p. 25.

Wireless telephony differs from other telephony services primarily by its highly mobile nature. The service is not tied to the subscriber's home, but to the subscriber himself. Calls are transmitted via wireless and satellite frequencies, particularly in remote areas[157]. One-fifth of the country's geographic area is covered by this infrastructure, providing access to over 99.7% of the population[158]. And since transmission and reception are not dependent on equipment in the consumers' home, a power outage there will not affect the operation of their wireless service. Moreover, access to emergency services is generally simpler with wireless telephony than with IP telephony, since the former applies the advanced E911 process – determination of the approximate location of calls using GPS and trilateration technologies.

On a less positive note, the price of wireless service also differs from that of IP telephony... Fixed telephony subscribers who transfer to wireless could therefore have to pay more to obtain this replacement service, depending on the package chosen.

Unlike wireline service, which has a more standardized package (unlimited inbound and outbound calls within a given country or region), wireless packages are much more varied. Prices depend on call minutes, number of text messages, coverage, mobile data included, and mobile network. Generally speaking, more and more plans include unlimited incoming and outgoing calls and texts. With respect to mobile data, the average monthly usage is 2.9 GB for subscribers to plans that include mobile data (90% of subscribers)[159]. Since this consumption is increasing rapidly, the CRTC has been more interested for the past two years in packages that include 5 GB of mobile data. We will therefore refer to these as average packages for the purposes of this section. In 2019, the packages cost an average of $48.82/month. As with wireline services, the price of this type of service is not uniform; depending on the provider and region, it ranges from $40 to $81 per month (in Saskatchewan). The price of an average wireless service can be as high as $99 per month in the Canadian North[160].

The CRTC also requires national carriers (Bell, Telus and Rogers) and Sasktel as of July 2021 to offer a basic wireless package[161] for $35 per month, which must include unlimited talk and text minutes and at least 3 GB of mobile data per month.

[157] CRTC. Evaluation of Payphone Alternatives and Payphones in Emergency Preparedness, March 25, 2014, online: https://crtc.gc.ca/eng/publications/reports/rp150226.htm
[158] CRTC. *Communications Market Reports – Highlights [...]* 2020, *op. cit.,* note 6, p. 25.
[159] CRTC. *Communications Market Reports – Highlights [...]* 2020, *op. cit.,* note 6, p. 24.
[160] CRTC. *Communications Market Reports – Open Data*, *op. cit.,* note 81, Table P-G7.
[161] CRTC. Telecom Regulatory Policy CRTC 2021-130, par. 545.

Table 2 Plans without mobile data, by provider[162]				
Providers	Prices of wireless phone plans without mobile data by included monthly call time (in minutes)			
	100	250	1000	Unlimited
Fizz				$24
Freedom				$24
Virgin Mobile	$15			$24
Bell	$15			$25-30
Telus	$15			$25-30
Fido		$25	$35	$26
Koodo	$15			$30
Videotron				$30
Rogers		$25	$35	$30-55
Public Mobile	$15			
Chatr			$15	
Lucky				

But those average and basic packages would not necessarily suit the needs of today's fixed-line subscribers, especially when it comes to the mobile data that is automatically included in fixed telephony. And there are unfortunately fewer and fewer wireless packages that do not include this expensive component of the service price. Table 2 provides an overview of the prices for packages called “Talk & Text” in Quebec and the providers that offer them.

It is possible, even likely, that when switching from landline to wireless telephony, a household will have to subscribe to more than one plan or a family plan so that each member can have their own device and service. The total cost of telephone service will of course increase in such a situation. The average Canadian household currently spends $112 per month to cover its wireless needs[163].

In addition to those fixed monthly costs, there is a potentially significant expense: the purchase of one or more mobile devices, since the device used for landline telephony does not usually include the SIM card required to connect to a wireless network. Over the years, mobile devices have become more complex. The simple flip phone that only allowed you to make calls and send or receive text messages has been replaced by smartphones with multiple features: the ability to access the Internet, download applications, take high-quality photos, etc. Today, 85% of Canadians own a smartphone[164]. The price for this type of device can vary from a few hundred dollars to over a thousand. The average price of devices sold in 2021 was US$368[165], or about $460 here. Of course, smartphones are also available

[162] The collection of posted prices in Quebec was conducted in March 2022. Two amounts appear in the same column when a prepaid and a postpaid package were offered by the provider for a package with similar components.
[163] STATISTICS CANADA. *Telecommunications: Connecting Canadians*, online: https://www.statcan.gc.ca/en/subjects-start/digital_economy_and_society/telecommunications (consulted on March 21, 2022).
[164] *Ibid*.
[165] GFK. *Global smartphone market recovers in 2021*, February 24, 2022, online: https://www.gfk.com/press/global-smartphone-market-recovers-in-2021

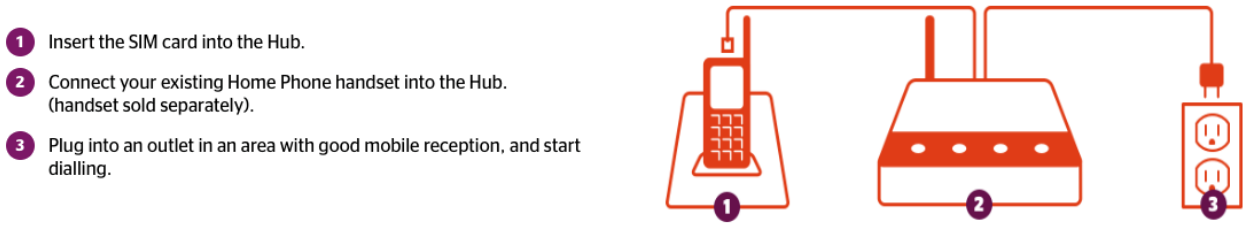
on the second-hand market at lower costs. Similarly, buying a good old basic phone – sometimes referred to as a dumbphone – is still an option. And even though the supply is smaller these days, nearly a billion of these devices were still sold worldwide last year[166].

4.1.4 Wireless Home Phone Services

A new wireless type of service has also emerged in recent years, combining wireless technologies with the fixed nature of traditional residential telephony (and the type of device associated with it). The way wireless home telephony works is very similar to IP telephony: Instead of transmitting calls through the Internet, this type of service sends them through the wireless network. The consumer, in addition to his telephone set, also needs a terminal that will connect this residential telephone set to the wireless network. This connection is made through a SIM card, which is in the terminal rather than in the phone.

The Koodo provider explains the installation of the service with the following illustration:

Koodo's illustration of a wireless terminal[167]



Since the phone and the terminal can be moved anywhere, as long as the wireless network is available, providers generally promote it for of its mobility (e.g.: use at the cottage or at the office).

According to our research, this service is currently offered by national providers Rogers and Telus, their respective complementary brands Fido and Koodo, as well as Virgin and a few lesser known providers (e.g. SimplyConnect, Zoomer Wireless). The prices of the packages offered by some of them are lower if the consumer also has a subscription to the wireless telephone service with the same provider. Prices generally range from $5 to $30 per month. In some cases, the terminal must be purchased separately, at a cost of approximately $120 to $140[168].

As with regular wireless telephony, it is relatively easy to have the phone number used for one's wireline service transferred to this new service[169]. It is also possible to contact emergency services, except in the case of a power failure, since the terminal depends on the electrical grid to function.

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[166] BEARNE, S. *Not smart but clever? The return of 'dumbphones'*, BBC, 21 March 2022, online: https://www.bbc.com/news/business-60763168
[167] KOODO. *Wireless home phone*, online: https://www.koodomobile.com/en/phones/wireless-home-phone (consulted on March 25, 2022).
[168] The prices shown were observed on the providers' websites in March 2022.
[169] CANADIAN WIRELESS TELECOMMUNICATIONS ASSOCIATION. *Wireless Number Portability*, online: https://www.cwta.ca/for-consumers/wireless-number-portability/ (consulted on March 21, 2022).

4.1.5 Online Communication Applications

A multitude of applications are available to send and receive text messages and make calls, including video calls. Skype, Zoom, Google Voice, Messenger (from the Facebook platform), WhatsApp, Viber, etc.: All of these applications have grown in popularity in recent years, thanks in part to the popularity of social media and the workplace reorganization required by telecommuting.

In order to operate, these applications require an Internet connection, which a consumer will have purchased independently of the calling service, i.e. an Internet access or mobile data service. Note that unlike standard IP telephony service, the data required to make calls from these applications will be counted in the consumer's monthly total of the underlying service (Internet connection or mobile data). A Skype call (audio and video) will consume approximately 5 MB of data per minute[170].

Calls can be made from a consumer's electronic device (desktop, laptop, smartphone, tablet, etc.) on which the application has been installed. Without an adapter, a traditional phone cannot be used in this context, as it cannot connect to the Internet. To use the applications, a consumer must have some basic computer skills and be comfortable following online instructions. He needs first to download the application (from a website or app store) and create an account and login. He then must integrate the IDs or other contact information of the people he wants to communicate with, and he must send them an invitation to interact on the platform. Finally, he must select from his list the contact he wants to communicate with at the moment, and he must choose the type of interaction he wants to establish the communication.

Unlike the other telephony services we have discussed so far, call applications generally allow calls only between users of the same platform and not to or from telephone numbers. These applications therefore evolve in parallel with the Canadian telephony system. Some services are exceptions to this rule (e.g.: paid version of Skype). Ironically, some of the applications still require a phone number at the time of registration in order to verify the consumer's identity (double authentication process). This is the case of Google Duo, for example, a service that will not use that phone number to operate afterwards. It could therefore be difficult for a consumer without any telephony service to use only this type of application.

But that approach remains feasible and was even indirectly appreciated by the CRTC in a 2018 decision. In doing so, the Commission mandated that certain providers offer lower-cost mobile data-only plans, and expressed the view that such an offering would encourage the use of applications for voice and text communication purposes[171]. While the CRTC's approach still fits into the wireless market, the result remains the same: to facilitate the use of Internet-based voice and video calling applications in place of traditional telephony, particularly for consumers who make relatively few calls.

Those consumers benefit because call applications are generally free and don't require the purchase of specific hardware to use. Some applications, however, offer additional versions or services, which

[170] XPLORNET. *Monitor and Manage Your Data When Video Calling*, online: https://www.xplornet.com/support/internet/managing-data-using-skype/ (consulted on March 29, 2022).
[171] CRTC. Telecom Decision CRTC 2018-97, pars. 102-103.

incur a fee, such as the ability to call multiple people simultaneously or the ability to call a phone number. A package of this type costs $11.40 per month with Skype[172].

Finally, it should be noted that voice and video calling applications have certain disadvantages that could make many people hesitate to opt for their exclusive use. Like IP telephony services, they depend on Internet access and the proper functioning of the connection device. Thus, a power failure will prevent them from working. Since they are not integrated with telephone networks, the applications don't make it possible to contact emergency services or use an old telephone number. And because they are closed circuit, they will not be able to support non-telephone devices that need to transmit data in real time (e.g., alarms, telemedicine devices).

4.1.6 Prepaid Phone Cards

The last option available to consumers, the prepaid phone card, is now less and less popular, particularly among those who do not make long distance calls. A consumer will generally purchase this type of card from general retail stores (big box stores, convenience stores, etc.) or from certain telephone service providers. To use the card, the consumer will need to follow the instructions on the card or explained on the card's access phone number that he dials from any telephone device. Some cards have amounts already built in, while others must be "loaded," i.e. the consumer adds the amount he wants to the card. With each call, this amount is deducted based on the number of minutes of the call and the applicable rate (which varies depending on the call's destination). In some cases, however, the call minutes may be lost at the end of the card's active period.

Today, these cards are mainly used for long distance calls, which are more expensive with home phone or wireless phone plans. Few people use them to make local calls, especially since many providers now offer prepaid phone plans that are similar in many ways to phone cards.

It should be noted that phone cards have many of the same problems as other alternative services (i.e., inability to transfer a phone number, incompatibility with non-telephone devices, etc.). However, they can be used to contact emergency services. And since they are not dependent on Internet access, they will continue to work even if there is a power outage.

4.2 Rights and Obligations: What Do the Service Contracts Say?

As shown in the previous section, several alternative services are available to consumers who no longer wish to or cannot maintain a wireline telephone subscription. The services vary in terms of how they work, their components and the providers that offer them. As such, these services may be subject to different legislative or regulatory frameworks, and subscribers' rights and obligations may differ considerably. An overview of the contractual documentation of some providers is therefore necessary to get the full picture.

[172] The price shown was observed on the Skype website in March 2022.

Due to the multitude of alternative telephony service providers in the Canadian market, we chose to limit our analysis to a sample of them – eleven (11) providers were selected based on their popularity with Canadian consumers and their particular status or role in the market:

- The three national providers (residential and wireless telephony): Bell, Rogers and Telus
- A regional provider (residential and wireless telephony): Videotron
- Two reseller providers (residential IP telephony): Ebox and Teksavvy
- Two network-independent IP telephony providers: MagicJack and Ooma
- Three voice and video calling service providers: Google Voice, Skype and WhatsApp

We will not deal with prepaid calling card contracts, given the relatively marginal nature of this service and especially because several major providers, such as VOX or PCMobile, which do business with Bell, copy its terms of service directly into their respective contracts[173].

It should be kept in mind that this analysis is done by a consumer advocacy group; while the data is objective, our findings and conclusions are not necessarily those that would be spontaneously arrived at by the relevant regulatory authorities. Thus, while we may comment on the general state of compliance in the marketplace or with respect to specific providers and make recommendations, it will be up to those authorities to determine how the issues we have raised should be addressed and how they will interpret and apply the applicable frameworks.

Finally, a more general finding of this study is that the contracts of companies that are not traditional communications service providers (Bell, Ebox, Rogers, Telus, Teksavvy, Videotron) have a structure and, above all, rules that are sometimes very different from those of the latter. For example, the service contracts of independent IP telephony providers seem to apply to both their Canadian and American subscribers. Moreover, they are written exclusively in English. But more generally, the terms used and the clauses' dense presentation make the documents more difficult to read and understand. Despite the criticisms that can certainly still be levelled at traditional providers and the CRTC, it must be admitted that the clarity obligations put in place by the Canadian regulatory body definitely seem to have brought about some improvements. We note that although the non-traditional providers are recognized as local service providers (VoIP type) by the CRTC (and by CCTS), the Ooma and MagicJack contracts ignore many of the rules developed by the Commission.

As for the three calling and video applications studied, we note that they all belong to larger companies, namely Microsoft for Skype, Google for Google Voice and Meta (formerly Facebook) for WhatsApp. Only Meta offers a specific contract for its application. For the other two, the applicable contracts are more broadly related to the range of services and products offered by their owners (e.g.: Office suite, Xbox, Google Maps, OneDrive). A consumer who tries to find out the contractual terms related to the service is therefore faced with a more complex exercise, since he will have to distinguish and deduce which elements apply to his calling application. On this point, it should be noted that the same problem arises at times with several traditional providers, when their contracts cover all of their services (e.g., Internet access and cable television services) in a single document.

[173] VOX. *Terms of Service*, online: https://vox.ca/doc/unreg_service_en.pdf (consulted on March 21, 2022); PCMOBILE. *PC mobile Terms of Service*, online: https://www.pcmobile.ca/en/terms-of-service/ (consulted on March 21, 2022).

4.2.1 The Applicable Legislative and Regulatory Framework

The presence of certain choice of law and jurisdiction clauses in the contracts of independent IP telephony providers and audio and video calling applications is immediately noticeable.

For example, the Ooma and Google Voice contracts provide for the application of California law[174], and the MagicJack contract for the application of Florida law[175]. Even more complex, Skype's contract provides for application of the laws in the province where the consumer resides, but for the exclusive jurisdiction of the courts of Ontario[176]! And the WhatsApp contract does not mention the applicable legislation – which would also be the legislation of the province where the consumer resides – but grants jurisdiction to the state court of San Mateo County (whose territory covers Silicon Valley)[177]. It should be noted that these clauses are not enforceable against Quebec consumers, since art. 3149 C.C.Q. provides that Quebec authorities always have jurisdiction over an action based on a consumer contract concluded by a resident of the province[178]. The situation is more complex in the other provinces of Canada. In an article on the subject, Professor Marina Pavlović speaks of a nebulous application of this type of clause by Canadian courts in recent decades[179].

Some of the contracts mentioned above, as well as those of Teksavvy and Rogers, also contain clauses that waive the consumers' right to participate in a class action and even to bring a dispute before a local court (e.g., Small Claims Court). Instead, in the event of a dispute, the consumer must bring the matter before an arbitrator[180]. This type of clause is also unenforceable against consumers in some parts of the country (Alberta[181], Ontario[182], Quebec[183] and Saskatchewan[184]).

4.2.2 The Proper Functioning of Services

None of the contracts studied provide any guarantee that the telephony service will function properly. We find a variety of clauses on this subject, regardless of the type of services offered, ranging from

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[174] OOMA. *Standard Terms and Conditions of Agreement Between Customers and Ooma*, art. 19(c), online: https://www.ooma.ca/legal/terms/ (consulted on March 18, 2022), GOOGLE. *Terms of Use*, online: https://policies.google.com/terms (consulted on March 21, 2022)
[175] MAGICJACK. *Subscriber Agreement*, *op. cit.,* note 153, art. 22, online: https://help.magicjack.com/faq/saps/?_ga=2.125399247.457541018.1647617361-959438478.1647024116 (consulted on March 18, 2022)
[176] MICROSOFT. *Microsoft Services Agreement*, art. 10(a), online: https://www.microsoft.com/en-ca/servicesagreement/ (consulted on March 21, 2022)
[177] WHATSAPP. *WhatsApp Terms of Service*, online: https://www.whatsapp.com/legal/terms-of-service (consulted on March 21, 2022)
[178] QUEBEC. *Civil Code of Québec*, CQLR c. CCQ-1991, art. 3149.
[179] PAVLOVIĆ, M. *Contracting Out of Access to Justice: Enforcement of Forum-Selection Clauses in Consumer Contracts*, McGill Law Journal, vol. 62, No. 2, December 2016, online: https://lawjournal.mcgill.ca/article/contracting-out-of-access-to-justice-enforcement-of-forum-selection-clauses-in-consumer-contracts/
[180] MAGICJACK. *Subscriber Agreement*, *op. cit.,* note 153, s. 25; OOMA. Standard Terms and Conditions, *op. cit.,* note 174, art. 16; WHATSAPP. *Terms and Conditions*, *op. cit.*, note 177; ROGERS. Rogers Terms of Service, Acceptable Use Policy and Privacy Policy, s. 10(a), online: https://www.rogers.com/support/terms/terms-of-service-acceptable-use-policy-and-privacy-policy (consulted on March 22, 2022); TEKKSAVVY. *Terms of Service*, s. 24.3, online: https://www.teksavvy.com/policies/legal-stuff/terms-conditions/ (consulted on March 22, 2022)
[181] ALBERTA. *Consumer Protection Act*, RSA 2000, c. C-26.3, s. 16.
[182] ONTARIO. *Consumer Protection Act*, 2002, SO 2002, c. 30, Sch A, s. 7(2).
[183] QUEBEC. Consumer Protection Act, CQLR c. P-40.1, s. 11.1.
[184] SASKTACHEWAN. The Consumer Protection and Business Practices Act, SS 2013, c. C-30.2, s. 101.

very legalistic formulations, such as that of Bell, to simpler formulations, such as those of MagicJack (independent VoIP) and Telus (wireless):

> *To the extent permitted by applicable law, Bell makes no warranties, representations or conditions of any kind, express or implied, including, but not limited to, fitness for a particular purpose, merchantability, title or non-infringement, with respect to the Bell Services*[185].
>
> *We cannot guarantee that the Services will always function without disruptions, delay or other imperfections. There may be power outages or internet service disruptions and you may experience other disruptions unrelated to the Services, which will interfere with the quality of your Service. [MagicJack]*[186]
>
> *Because mobile telecommunications are transmitted over radio waves, they are dependent on factors that cannot be reasonably controlled. For this reason, TELUS does not guarantee timely, secure, error-free or uninterrupted service or certain receipt of your messages or data*[187].

The various contracts contain long lists of factors that may affect the operation or quality of telephony services: the geographical location of users, weather or atmospheric conditions, defects or failures in equipment and facilities, network congestion, natural disasters, etc.[188]. The possible suspension of services in the event of a power failure or network breakdown is also highlighted in broad strokes.

Only one of the providers studied, Teksavvy, clearly compares its IP service to wireline service in its contract documentation. The provider states that IP service may not perform as reliably or as well as conventional telephone services[189]. And only the independent IP telephony providers mention the potential incompatibility of their services with alarm systems, fax machines and telemedicine devices[190].

4.2.3 Access to Emergency Services

Although they already have general clauses regarding the possibility that their services may not work properly at all times, all the contracts studied specifically address the use of their services to contact emergency services. In all cases, the possibility that access may not be possible, particularly in the event of a power outage or a failure of the Internet access service, is highlighted[191]. Some note that it is subscribers' responsibility to provide alternate means or tools to reach emergency services at all times. Strangely, MagicJack's contract states that it is not required to provide telephone access to

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[185] BELL. *Bell Terms of Service*, s. 52, online: https://www.bell.ca/styles/common/all_languages/all_regions/pdfs/Bell_Terms_of_Service.pdf (consulted on March 18, 2022)
[186] MAGICJACK. *Subscriber Agreement*, *op. cit.,* note 153, s. 1.
[187] TELUS. *Mobility Service Terms*, Section 28, online: https://www.telus.com/en/support/article/service-terms-between-you-and-telus (consulted on March 22, 2022).
[188] ROGERS. *Terms of Service*, *op. cit.,* note 180, s. 9(b); Videotron. *Communications Service Contracts: Part 2 – General Rules (Residential Customers)*, s. 5.1, online: https://videotron.com/en/support/legal/terms-conditions (consulted on March 22, 2022); TELUS. *Mobility Service Terms*, *op. cit.,* note 187, s. 10.
[189] TEKKSAVVY. *General Conditions, op. cit.,* note 180, Art. 12.5; BELL. *Bell Terms of Service, op. cit.,* note 185, art. 31.
[190] MAGICJACK. Subscriber Agreement, supra note 153, s. 1; OOMA. Standard Terms and Conditions, supra note 174, s. 10(g).
[191] BELL. *Bell Terms of Service*, *op. cit.,* note 185, s. 12; TEKKSAVVY. *General Conditions*, *op. cit.,* note 180, art. 15.4; EBOX. *Terms and conditions*, online: https: https://www.ebox.ca/en/terms-and-conditions/ (consulted on March 22, 2022).

emergency services (911 or E911), even though it has been required to do so since 2005[192] and the CRTC even specifically reminded it of this in 2010[193].

All three voice and video calling services make it clear that they are simply not meant for that type of call. Skype's contract offers the clearest explanation this:

> *The Skype Software and Products are not designed to support or make emergency calls to hospitals, police departments, medical care centers or any other type of service that connects a user to the personnel of an emergency service or public safety answering point*[194].

4.2.4 Contract Amendments

Nor did we find any significant differences in the contracts of the providers we studied with respect to their right to modify these documents: All the providers grant themselves the right to modify them, whether or not they are fixed-term contracts.

However, the effect of provincial legislation (Quebec, Newfoundland and Labrador) and the CRTC's Wireless Code on Canadian providers is noted, as their contracts generally provide for notice to be given at least 30 days prior to the effective date of the change, where required, and for the consumer to opt out of the change by terminating the agreement[195]. Other providers are much vaguer about how contractual changes will be communicated to consumers. Unfortunately, MagicJack again stands out for its practice. Its contract does not provide for advance notice, but rather for amended or updated versions of its contractual documentation to be posted on the provider's website from time to time and to be effective immediately[196]. It is highly unlikely, if not virtually impossible, that the consumer – even though bound by the contract – would become aware of the changes in a timely manner.

4.2.5 Contract Renewal

Historically, the renewal of telephony contracts has been an important issue for the Canadian regulator; the consumer must not be held captive, but it must also be ensured that a distracted consumer is not deprived of access to telephony at the end of his contract and that he does not risk losing his phone number.

We note that Canadian providers that offer services over fixed periods of time all provide in their contracts for automatic renewal at the end of the initial contract. Whether it is Bell, Rogers or Telus, the new contract is indefinite, i.e. it renews on a monthly basis[197]. Among independent IP service

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[192] CRTC. Telecom Decision CRTC 2005-61.
[193] CRTC. Letter to magicJack Canada, Follow-up to Decision 2005-61 – Obligations of local VoIP service providers with respect to 9-1-1 customer service customer notification requirements and registration as a reseller, July 28, 2010, online: https://crtc.gc.ca/eng/archive/2010/lt100728m.htm
[194] MICROSOFT. *Microsoft Services Agreement*, art. 13(e)(i), online: https://www.microsoft.com/en-ca/servicesagreement/ (consulted on March 21, 2022).
[195] See e.g. BELL. Bell Terms of Service, *op. cit., note 185, arts 9-10; ROGERS. Terms of Service, op. cit., note 180, s. 2; Videotron.* Communications *Service Contracts*: Part 2, *op. cit.,* note 195, s. 15.3.
[196] MAGICJACK. Subscriber Agreement*, op. cit.,* note 153, s. 20.
[197] BELL. *Bell Terms of Service*, *op. cit.,* note 185, s. 17; BELL. Bell Mobility Terms of Service, s. 13, online: https://www.bell.ca/Bell_Mobility_Terms_of_Service (consulted on March 18, 2022); TELUS. *Mobility Service Terms*, op. cit., note 187, s. 33; ROGERS. *Terms of Service*, *op. cit.*, note 180, s. 2(b).

providers, only MagicJack offers fixed-term subscriptions. Its contract provides for automatic renewal, unless the consumer has "unchecked" the provider's pre-selected automatic renewal option. The only catch is that the contract is then renewed for 12 or 15 months[198], since the provider does not seem to offer its services otherwise.

This practice is not contrary to the CRTC's framework, but it should be remembered that in 2013, the authority was concerned that this practice "acts as a barrier to switching WSPs by locking consumers into another contract term when they may not wish this to happen" and is detrimental to market dynamism[199]. This comment was made in relation to the wireless market at the time, but is equally applicable to the residential telephone market.

4.2.6 Termination of Services

Many contracts state that the consumer may terminate the service at any time, including before the end of the term. At the same time, all the contracts of Canadian providers state that they reserve the right to charge early termination fees. Only two of them detail the calculation of such fees. This is the case with Bell, whose separate contracts for residential and wireless telephone services allow for a comparison of the penalties that consumers are exposed to depending on the service chosen. Bell contracts thus demonstrate the impact of the CRTC's Wireless Code. For example, when terminating a fixed-term wireless contract, a consumer would owe Bell $50 or 10% of the monthly fee for the remaining months, unless a device was provided at the time the contract was entered into[200]. For home phone contracts, it is more of a fixed amount, depending on the Bell contract: $50 if it was for a one-year term and $100 if it was for a two-year term[201]. It should be noted that these latter indemnities do not appear to comply with s. 214.7 of the Quebec Consumer Protection Act[202].

The contracts of independent IP telephony providers whose services are sometimes paid by the year do not provide for termination fees. However, they indicate that no credit or refund is given to consumers who terminate service early[203]. The documentation of the three voice and video calling applications is less clear on this issue, probably because their services are generally offered to consumers free of charge.

4.2.7 Suspension of Services in Case of Non-Payment

Considering the essential nature of telephone services, we also looked at how providers treat subscribers who are in default of payment. It should be noted that the CRTC has intervened in the past with respect to the practices and policies of providers in this regard, in order to guarantee reasonable access to telephony services for all Canadian consumers, including those whose socio-economic situation makes them less attractive to providers[204].

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198 MAGICJACK. Subscriber Agreement, *op. cit.,* note 153, art. 13.
199 CRTC. Telecom Regulatory Policy CRTC 2013-271, par. 273.
200 BELL. *Bell Terms of Service, op. cit.,* note 185, s. 59.
201 BELL. *Bell Mobility Terms of Service, op. cit.,* note 197, s. 52.
202 QUEBEC. Consumer Protection Act, CQLR c. P-40.1, s. 214.7.
203 MAGICJACK. Subscriber Agreement, *op. cit.,* note 153, s. 3(a); OOMA. Standard Terms and Conditions, *op. cit.,* note 174, s. 13(a).
204 CRTC. Telecom Regulatory Policy CRTC 2009-424, pars. 13-15.

Not surprisingly, all the contracts studied recognize the right of providers to suspend service, including access to emergency services, in the event of non-payment[205]. The exception to this rule is, of course, services offered free of charge.

Many Canadian providers refer to the obligations imposed on them by the CRTC codes with respect to bad debts (e.g., minimum amounts or time limits for debts before action can be taken, sending a notice), but other providers are vaguer. Once again, independent IP telephony providers seem to ignore the CRTC rules and simply indicate that a default in payment could lead to an immediate suspension of their services[206].

[205] See e.g. BELL. *Bell Mobility Terms of Service, op. cit.,* note 197, s. 66; ROGERS. *Terms of Service, op. cit.,* note 180, s. 2(l)(i).
[206] MAGICJACK. Subscriber Agreement, *op. cit.,* note 153, s. 9; OOMA. Standard Terms and Conditions, *op. cit.,* note 174, art. 11(a).

CANADIAN CONSUMERS' PERSPECTIVE

chapter 5

It was important for this study to better understand the expectations, needs and fears of Canadian consumers regarding their telephony service(s) and to explore their perception of the wireline telephony replacement options described above.

To do so, we commissioned a firm to conduct a survey of 1,537 respondents representative of the Canadian adult population (place of residence, average income, age, etc.)[207]. In order to be retained in the sample, respondents had to be currently subscribing to a residential telephone service or have done so in the last five years. Approximately 70% of those initially contacted by the survey firm met one of those criteria; 64% subscribed to both residential and wireless service and 6% subscribed exclusively to residential service.

The results are presented separately for the two groups of respondents. It should be noted that there are clear similarities between all these consumers, especially with regard to their perception of wireless telephony. And some apparent incompatibilities in their answers can be perfectly explained, in practice. This is the case, for example, with the cost of residential telephony. On the one hand, its low cost compared to other services explains the choice of many to remain subscribers, and on the other, the desire to save money explains the choice of others to unsubscribe. These answers are compatible in that a majority of Canadian households currently subscribe to several telephone services. While residential service is the least expensive, for many it is also the least useful, hence the choice to retain only wireless telephony and thus save what residential telephony would have cost.

5.1 Portrait of Current Fixed Telephony Subscribers

1,080 respondents who currently subscribe to a residential telephone service were selected for the survey. Of those, nearly 70% subscribe to a wireline service, while 19% subscribe to an IP-based service. A significant proportion of respondents don't know which type of technology is used, which can be explained in part by the limited detail generally provided by providers on this subject and the minor differences between the two services from the user's point of view. Older respondents are more likely to be unaware of which service they are dealing with (almost 40% of those aged 65 and over).

5.1.1 Reasons for Their Subscription to Fixed Telephony

When asked about the reasons they currently have a home phone subscription, respondents point to a wide variety. Three stand out.

[207] The survey was conducted by Passage Communications in collaboration with Union des consommateurs in April 2022. Respondents were recruited by this firm and completed an online questionnaire. The maximum margin of error for a probability sample of this size is – +2.5% (19 times out of 20).

Top of the list: maintaining a home phone subscription out of habit, which concerns no less than 43% of respondents. About a third of respondents also emphasize the sense of security associated with their home phone. It is not possible to determine what these respondents are referring to specifically, but it is safe to assume that some of them are aware of the advantage of having a landline telephone in the event of a power failure. Surprisingly, there is no difference between respondents who have or do not have a wireless telephone service. Nearly four out of ten respondents also say they maintain a subscription in order to keep a phone number. These respondents would benefit from knowing that they can easily transfer their number to several telephone services, as mentioned in the previous chapter.

Other reasons include the lower cost of residential service (20%) and equipment (14%) and call quality (17%). 15% of respondents also said they needed a residential line to operate certain devices (alarm, fax, telemedicine equipment). This is a fairly high percentage of consumers who consider themselves, rightly or wrongly, prisoners of residential service because of other services they depend on.

Finally, we note that a few responses concern the inadequacy of other telephony services. About one in ten respondents do not feel comfortable using these other services or consider that the additional functions they offer would not be useful to them.

5.1.2 Surprising Subscriber Loyalty

The survey results confirm the previously cited British study's finding that fixed-line subscribers are very loyal. More than 80% of Canadian respondents have not changed their service provider in the past five years. This stability may, at first glance, be seen as a sign of high satisfaction, but it is generally more a reflection of consumer inertia, which is supported by their primary motivations for maintaining a subscription. Above all, this high level of stability prevents them from taking advantage of competition in the telephony services market – which often takes the form of promotional offers aimed at new customers – and thus limits their ability to reduce their telephony expenses. It is to be hoped that consumers don't adopt the same attitude when it comes to their wireless telephone service – current or future, if applicable, since the Competition Bureau estimates that a consumer can save nearly $250 annually by switching to a new provider for this type of service[208].

This stability among fixed-line subscribers is also reflected in their future plans. Barely 10% of them plan to cancel their service in the next three years. Note that this rate is relatively similar to the cancellation rate (churn rate) observed over the last three years[209]. Recall that between 2013 and 2020, the number of residential subscriptions declined by nearly 25%[210].

But a large number of consumers could also join this 10% who are determined to cut the cord. No less than 25% of respondents who currently subscribe to home phone service say they are unsure about the future of their subscription. This is particularly true for residents of the Atlantic provinces.

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[208] COMPETITION BUREAU. *Stop Overpaying, Start Switching*, 2022 Edition, online: https://ised-isde.canada.ca/site/competition-bureau-canada/en/how-we-foster-competition/promotion-and-advocacy/advocacy-promoting-benefits-competition/stop-overpaying-start-switching
[209] CRTC. Communications Market Reports – Open Data, *op. cit.,* note 81, Table MG-6.
[210] *Ibid*, Table SLI4.

Among those who are determined to maintain a subscription, there is an overrepresentation of people aged 65 and over, with low levels of education or whose household income does not exceed $50,000. More surprisingly, 72% of respondents aged 35 to 44 years old also think they will keep a landline phone in the next few years.

5.1.3 An Interest in Wireless Telephony

Among those who plan to end their residential telephone subscription in the next few years or who are still hesitating, the vast majority plan to use wireless telephony as a replacement (89%). In fact, almost all of them already subscribe to it. Other available services, such as network-independent IP telephony or calling applications, are not very popular. In fact, the survey results show that Canadians know very little about IP telephony in general. When asked about their opinion of it, almost one in two respondents said they didn't know what it was. And one in five say there is no difference between wireline and IP telephony. Surprisingly, the majority of respondents say they have heard of network-independent IP telephony services. If these results are accurate, it means that the current very low subscription rate to these services is only partially related to their low awareness. Their complexity of installation and use – real or perceived – may also be a factor.

5.2 Portrait of Former Fixed-Line Subscribers

We also selected 457 consumers who recently terminated their home phone service to complete our survey.

5.2.1 Reasons for Their Cancellation of Fixed Telephony

Of course, we asked them about the reasons behind their choice to end their home phone service. More than one in two (56%) said they simply didn't need the service anymore. This result is not very surprising considering the high rate of subscription (parallel) to wireless telephony and the justification of many current subscribers for maintaining their service simply out of habit. Moreover, one respondent out of five points out that they were using more of their other telephone services at the time of unsubscribing. Nearly half of the respondents (47%) also stated that they had terminated their service in order to save money, probably because they had a dual subscription to telephony (residential and wireless) at the time.

5.2.2 Undisputed Dominance of Wireless Telephony

Like current home phone subscribers who plan to end their service soon, former subscribers have almost all turned to wireless telephony to meet their communication needs (87%). One quarter of respondents had to subscribe to the new service because they were not already subscribers. Among the latter, there is an overrepresentation of low-income households and people with low levels of education, which corresponds well with publicly available data on the socio-demographic groups for whom access to new technologies is traditionally more difficult.

Again, the exclusive use of online communication applications is very marginal (4%).

5.2.3 A Smooth Transition

The vast majority (84%) of respondents who used to subscribe to residential telephone service say they are satisfied with their cancellation (churn). Many regret not having done so earlier. The very low rate of dissatisfaction is likely due to the few incidents and negative situations that respondents report in the survey. Although infrequent, here are the top complaints consumers have about their transition to other phone services:

- Decline in call quality (9%)
- Unexpected loss of phone number (5%)
- Underestimation of expenses for the new service (5%)
- Unsuspected failure of the new service in the event of a power failure (4%)
- Difficulties in setting up or using the new service (3%)

It should be noted that barely 3% of respondents had to take steps or make unexpected changes to ensure the connection or reconnect certain devices that depended on the wireline network (e.g. fax, alarm, telemedicine devices). This rate is certainly encouraging, but cannot be used as a reliable indicator of the impact that the termination of the wireline network would have on the proper functioning of those types of devices owned by consumers, since those most likely to be affected are possibly also the most resistant to churn. It should be noted that 15% of current subscribers to home phone service have indicated that they maintain their subscription to ensure the operation of those devices, among other reasons.

LEGAL CONTEXT OF THE END OF WIRELINE SERVICE

chapter 6

The end of wireline telephony seems inevitable. Providers are preparing for it and in some cases have already begun the process, and consumers don't seem particularly aware or concerned about the coming changes, given the presence of readily available replacement options. But what about the law? Does the current legal and regulatory framework allow for this to happen? And if so, under what conditions? This section will address two of the framework's elements that may impede or complicate providers' plans somewhat.

As a background, it should be recalled that residential telephony has been the subject of a basic service objective since 1999, which aims to ensure universal access[211]. This recognition by the CRTC of the service's importance to society is in line with many undertakings to develop competition in this market, which was initially dominated by a few monopolies[212].

6.1 Providers' Obligation to Serve

When talking about the future of residential telephony, one must of course keep in mind the obligation to serve imposed on the providers of such service.

This obligation has its roots in the early days of telephony. Telephone services were first offered by incumbent carriers responsible for distinct service territories[213]. The granting of these monopolies was accompanied by a quid pro quo: the obligation to serve all subscribers in the area who requested it, without discrimination and at the set rates. And this obligation included a second one: extending the service, if necessary, beyond the limits of the facilities initially in place[214]. Note that the obligation to serve includes the following elements of the telephony service[215]:

- Local single line service, i.e. basic wireline residential service
- Some specific features, such as access to emergency services and operator services
- Access to the long distance network

[211] CRTC. Telecom Decision CRTC 99-16, par. 24.
[212] WINSECK, D. *Media and Internet Concentration in Canada*, 1984-2020, Global Media and Internet Concentration Project, 2021, p. 65, online: http://www.cmcrp.org/wp-content/uploads/2021/12/GMICP-Concentration-Report-Canada-2021-17122021.pdf; YHURST, J. S. *Monopoly Lost? The Legal and Regulatory Path to Canadian Telecommunications Competition, 1979-2002*, Ottawa Law Review, vol. 33, No. 2, 2002, p. 389, online: https://www.canlii.org/en/commentary/doc/2002CanLIIDocs26
[213] CRTC. Telecom Regulatory Policy CRTC 2011-291, par. 2.
[214] CRTC. Telecom Decision CRTC 99-16, pars. 31-32.
[215] CRTC. *Telecom Decision CRTC 99-16, par. 24*; CRTC. Telecom Regulatory Policy CRTC 2011-291, pars. 13-15.

In the 1980s and especially the 1990s, as markets opened up to competition, the CRTC gradually began to deregulate the provision of telephone services[216]. It allowed providers to offer services at the rates they wished, because it believed that market forces would be sufficient to impose reasonable conditions on such offers in certain parts of the country. The obligation to serve was then called into question. Was it still necessary in areas where the price of the telephone service offered is deregulated and where several providers compete to attract the same consumers? Considering the time required to establish real local competition in these sectors, the CRTC ultimately chose, in 1999, to maintain incumbent carriers' obligation to serve[217].

However, the issue resurfaced in 2005, when cable companies began offering residential telephone services in Canada. Since they are not incumbent carriers, cable companies are not subject to any obligation to serve[218]. This led the CRTC to adapt the rules applicable to incumbent carriers in 2006 by introducing a so-called limited obligation to serve for areas where rates are deregulated. This obligation now applies to the vast majority of habitable areas in Canada. What it means is that the companies involved are still required to provide basic service at a price threshold determined by the Commission… unless an alternative service is available[219]. And since wireless services are an acceptable substitute for wireline telephony services in the eyes of the CRTC, according to a 2011 decision[220], incumbent carriers may now fulfil their obligation to serve by offering either of these services[221]. Wireless telephone service currently reaches 99.7% of the Canadian population[222]. Thus, there is very little remaining obligation to serve in the deregulated sectors, and it does not appear to be a real obstacle to the termination of wireline services.

6.2 Destandardization and Withdrawal of a Tarified Service

A provider wishing to terminate its wireline service offering in an area where tariffs are regulated (a non-forbearance area) has to make certain representations to the CRTC, because the Commission maintains oversight of the providers' residential telephone service offerings as part of its approval of their respective "General Tariff" (the name given to the general terms of service because of the tariff provisions historically present in such documents). The obligation to serve described above is incorporated into the incumbent carriers' general tariffs (rates)[223]. And these documents, which are now several hundred pages long, also contain a description of all of the services offered by the relevant provider. We are talking about the type of service (individual line service, dependent network service, uniform or fixed rate service, etc.), not the exact packages offered. By approving these tariffs (rates), the CRTC is also limiting the changes that can be made to the types of services offered.

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[216] LONGFORD, G, MOLL, M and REGAN SHADE, L. "From the 'Right to Communicate' to 'Consumer Right of Access': Telecom Policy Vision from 1970 to 2007," in *For Sale to the Highest Bidder*: Telecom Policy in Canada, Canadian Centre for Policy Alternatives, 2008, p. 18; CRTC. Telecom Decision CRTC 2006-15, par. 2.
[217] CRTC. Telecom Decision CRTC 99-16, par. 36.
[218] CRTC. Telecom Regulatory Policy CRTC 2011-291, par. 15.
[219] *Ibid.*, par. 46
[220] *Ibid.*, par. 48
[221] *Ibid.*, par. 49.
[222] CRTC. Communications Market Reports – Highlights… 2020, *op. cit.,* note 6, p. 25.
[223] See for example the Bell General Tariff: BELL. Extract from the Bell General Tariff, doc. No. CRTC 6716, s. 10(3), online: https://www.bce.ca/Tariffs/bellcanada/GT/1/10.pdf?version=1588367123387

Providers argue that changes in demand and in the costs of providing services, as well as the obsolescence of the technologies underlying the services, may force them to cease offering services to new subscribers (referred to as destandardization) or to all their customers (referred to as withdrawal)[224]. A provider wanting to discontinue a tariffed service must apply to the CRTC and obtain "changes to the Tariffs." The application will be assessed according to guidelines developed by the Commission.

Although tariffed services are very rare today, an overview of this aspect of their regulation is not without interest. This overview demonstrates certain measures that the CRTC could consider in the context of a wireline shutdown, if it were to conclude that free market forces cannot adequately deal with this situation and achieve the objectives of Canada's telecommunications policy (and that it must therefore be regulated despite the general forbearance from regulation)[225]. It should be recalled that the policy principles include access for all to reliable, affordable and quality telecommunications services, and the satisfaction of the economic and social needs of telecommunications service users[226].

The CRTC's analytical framework

Since 2005, it has been mandatory for providers to send a notice to customers who will be affected by plans to destandardize or completely discontinue a tariffed service[227]. The notice must include "clear and detailed[228]" information on certain key elements of the proposal (e.g., the provider's reasons for the proposal, expected termination date, etc.). The notice must also make clear that the CRTC will consider the matter and provide the information required to allow affected consumers to participate in the regulator's proceeding if they wish[229]. Historically, providers were also required to provide consumers with information about the availability of reasonable alternatives (equivalent functionality, availability and cost)[230]. However, this requirement was removed in 2008 because it was, in the Commission's view, an inordinate burden on providers[231]. Still, the Commission continues to encourage providers to offer this information to affected consumers. It seems surprising that the CRTC considers it more important for consumers to be notified of a proceeding (which is highly procedural and technical) than of the services they could turn to in the event of a destandardization or withdrawal of their current telephone service, especially since the regulator justifies the need for such notification by the significant negative impact that changes may have on customers.[232]

In 2008, the CRTC also ended two other regulatory obligations imposed on providers that had initiated a destandardization or service discontinuation application. First, the CRTC removed the requirement to prove that there is a reasonable substitute for the service in question. On the other hand, it ceased

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[224] CRTC. Telecom Decision CRTC 2008-22, par. 37.
[225] The CRTC retains intervention powers under sections 24 and 27(2) and 27(4) of the Telecommunications Act, S.C. 1993, c. 38.
[226] *Telecommunications Act*, S.C. 1993, c. 38, s. 7(b) and 7(h).
[227] CRTC. Telecom Circular CRTC 2005-7, pars. 15 and 19.
[228] CRTC. Telecom Decision CRTC 2008-22, par. 56.
[229] CRTC. Telecom Circular CRTC 2005-7, pars. 15, 16 and 19; CRTC. Telecom Information Bulletin CRTC 2010-455-1, pars. 37-39.
[230] CRTC. Telecom Circular CRTC 2005-7, pars. 16 and 19.
[231] CRTC. Telecom Decision CRTC 2008-22, pars. 51-55.
[232] *Ibid.*, par. 56.

to require the development of transition plans that allowed sufficient time for customers to plan for the replacement of the service in question and to be provided with the necessary support[233]. This second requirement was intended, among other things, to provide greater certainty about project steps and timelines for both customers and reseller providers ("carriers") who depended on the affected infrastructure[234].

The Commission's 2008 decision to discontinue many of the requirements described above is part of a larger deregulatory movement that began in 2006, following the adoption of instructions to the Commission by the federal Conservative government of the time[235]. The intent was for the CRTC to adopt a largely market-based approach to its implementation of the Telecommunications Act.

Note that new instructions were adopted in 2019. They added to those of 2006 and no longer placed the principle of free competition above, but on an equal footing with the principles of affordability, innovation and consumer protection[236], as the law does. There is still some uncertainty as to the parallel applicability of the two instruction decrees and how the regulator will comply with them. But both decrees could soon be repealed, as the government has been working since the summer of 2022 on new instructions that would replace those in force[237].

[233] *Ibid.*, par. 55; CRTC. Telecom Circular CRTC 2005-7, pars. 12-13.
[234] CRTC. Telecom Decision CRTC 2008-22, par. 34.
[235] Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, P.C. 2006-1534.
[236] Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation, SOR/2019-227.
[237] Order Issuing a Direction to the CRTC on a Renewed Approach to Telecommunications Policy (not yet in force), July 6, 2022, online: https://ised-isde.canada.ca/site/services-mobiles/fr/decret-donnant-crtc-instructions-approche-renouvelee-politique-telecommunication

ENDING WIRELINE SERVICE ABROAD: HOW DO SOME COUNTRIES DO IT?

chapter 7

While the eventual end of wireline telephony has been the subject of speculation and discrete steps by providers, but of relatively few concrete discussions in Canada, other countries have already been active on this subject for several years. The Canadian situation seems to be a few years behind that of these other countries (both in terms of the status of subscriptions and the progress of providers). The advantage of this time lag is that it allows us to analyze foreign approaches – by providers and regulators – in this area and to draw inspiration from them by adapting them to the specific Canadian context.

The purpose of this section is to provide a portrait of the approaches taken by providers and regulators in France, the United States and the United Kingdom, three countries that are at different stages of the process and whose chosen or proposed frameworks differ (depending mainly on political and ideological choices, the state of competition and the powers of their respective regulators).

Several other states have also undertaken, and in some cases completed, a transition from wireline to IP telephony or other alternative technologies. According to a study by the Body of European Regulators for Electronic Communications (BEREC), seven European countries had completed their transition to IP telephony by 2016 (Austria, Bulgaria, Macedonia, Croatia, Liechtenstein, Montenegro and Slovakia)[238]. For linguistic reasons, we could not study the steps in those countries. Moreover, it seemed more relevant to study the situation in countries with a larger territory and/or a telecommunications services market more similar to Canada's.

7.1 Steps Taken in France

The French regulator, the *Autorité de régulation des communications électroniques, des postes et de la distribution de la presse* (ARCEP), began to intervene publicly on the issue of the withdrawal of analog wireline telephony as early as 2014, even before a local provider indicated its intention or desire to move in this direction. The subject was already topical at that time in the United States and in some European states. The giant Orange, formerly France Telecom, shortly afterward announced its intention to cease operating its wireline network (called *réseau téléphonique commuté* or RTC in France). Since then, the steps taken by the provider, in partnership with the regulator, appear to be going quite smoothly, without any major obstacles or difficulties. The following examines the situation in more detail.

[238] BODY OF EUROPEAN REGULATORS FOR ELECTRONIC COMMUNICATIONS. BEREC *Report Case Studies on Migration from POTS/ISDN to IP on the Subscriber Access Line in Europe*, doc. No. BoR (16) 163, October 6, 2016, p. 10, online: https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/6486-berec-report-case-studies-on-migration-from-potsisdn-to-ip-on-the-subscriber-access-line-in-europe

7.1.1 The Regulator's Role

Generally speaking, ARCEP's mandate in this matter is twofold[239]. First, it must ensure that fair competition is maintained between French telephony providers and that alternative offerings are developed. To that end, it has issued a number of decisions governing the RTC (wireline network) termination by Orange. The *Authorité* also has a role to play in informing French consumers, which it fulfils among other things through explanatory pages on its website.

ARCEP issued an initial decision in 2014 whereby it laid down a fundamental marker for a possible withdrawal of switched service in the country: the obligation for Orange to give at least five years' notice before the commercial and technical closure of a network[240]. In this decision, which is part of its broader analysis of fixed telephony markets, the *Autorité* deals with the obligation of a wholesale offer by Orange. It maintains this obligation, but issues certain warnings to reseller providers (carriers):

> *À cet égard, il est important de sensibiliser l'ensemble des acteurs à la pérennité de cette offre, qui est intimement liée à celle du réseau RTC. En effet, l'Autorité ne s'opposera pas, le moment venu, à la volonté d'Orange de rationaliser son réseau téléphonique historique, par exemple en fermant le RTC sur tout ou partie du territoire. En cohérence avec la fermeture commerciale et technique de ses propres services de détail, Orange sera alors autorisé à ne plus fournir d'offre de VGAST [vente en gros de l'accès au service téléphonique], moyennant un préavis suffisant, d'une durée minimale de cinq ans, compte tenu du bouleversement qui pourrait en résulter pour l'ensemble du secteur*[241].

Since Orange did communicate that intention to ARCEP shortly after the decision, in May 2015 ARCEP began holding periodic meetings with the various providers to discuss their concerns and issues regarding the transition to IP telephony. The meetings also served as a way for other providers to get updates on the progress of Orange's project, as well as answers and clarifications from the incumbent provider directly[242].

ARCEP also initiated a public consultation in 2020 regarding the specific needs of businesses in the context of Orange's RTC (wireline network) discontinuation. We will return to this in section 7.1.5.

The FFT white paper

The organization that brings together some 15 of the country's electronic communications providers, the *Fédération Française des Télécoms* (FFT), undertook consultation and standardization efforts in relation to RTC discontinuation, in parallel with those of ARCEP, in which FFT members were also involved. After Orange's announcement, the organization set up a working group whose work led to the

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[239] ARCEP. *Quels sont les changements que l'arrêt du réseau téléphonique commuté (RTC) va provoquer ?*, online: https://www.arcep.fr/demarches-et-services/utilisateurs/larret-progressif-du-reseau-telephonique-commute-rtc.html (consulted on December 3, 2021).
[240] FRANCE. Décision n° 2014-1102 du 30 septembre 2014 portant sur la définition des marchés pertinents de la téléphonie fixe, la désignation d'opérateurs exerçant une influence significative sur ces marchés et les obligations imposées à ce titre, section IV.2.4.4, online: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000030136148
[241] *Ibid*.
[242] ARCEP. *Consultation publique sur le bilan du cycle en cours et les perspectives pour le prochain cycle d'analyse de marché*, July 2020, p. 8, online: https://www.arcep.fr/uploads/tx_gspublication/consult-bilan-et-perspectives-ADM-tel-fixe-entreprises_juil2020.pdf; ARCEP. *L'Arcep a engagé des travaux multilatéraux dans la perspective de l'arrêt, par Orange, de son réseau téléphonique commuté*, February 16, 2016, online: https://www.arcep.fr/actualites/les-communiques-de-presse/detail/n/larcep-a-engage-des-travaux-multilateraux-dans-la-perspective-de-larret-par-orange-de-son-reseau.html

release of a white paper in May 2017 on the transition from wireline to IP telephony. Rather technical, the document includes a series of recommendations to facilitate the transition and avoid inconvenience for providers and users[243]. ARCEP has retained some elements of the document in subsequent decisions, for example in a 2018 decision, in which it states that the industry white paper helps shed useful light on certain technical issues[244]. ARCEP also refers to the paper for issues related to the potential compatibility of certain systems originally developed on wireline networks (alarm and remote monitoring systems, for example)[245].

7.1.2 Orange's Steps

The provider Orange has the largest wireline network in France. Other providers also have wireline networks, but on a much smaller scale. The Orange wireline network is also used since 2005 by resellers (called *opérateurs alternatifs*, in France) through the wholesale offering[246]. In parallel, Orange has a next-generation network enabling it to offer IP telephony and television, as well as an Internet access service[247].

On February 11, 2015, Orange for the first time officially announced its intention to discontinue its wireline operations. The provider made this announcement at a meeting of the interconnection and access committee attended by the regulator and several French providers (including alternative providers that rely on Orange's wireline network)[248]. The provider issued a statement on the subject the following year, in February 2016. To justify its choice, it argued that wireline technology was at the end of its life, and called it obsolete[249]. Orange added that it was experiencing significant difficulties in keeping the network up and running: Some replacement parts would no longer be available and its employees would no longer be adequately trained for this technology[250]. Orange also raised financial and technical arguments with the regulator, while claiming that it needed to optimize its costs and rationalize its human resources management in the face of decreasing call volumes on its wireline network[251]. The French giant no longer wants to assume the costs of maintaining two parallel networks, wireline and fibre optic.

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[243] FÉDÉRATION FRANÇAISE DES TÉLÉCOMS. *Transition du RTC vers la voix sur IP*, Livre blanc — Recommandations du groupe de travail de la Fédération Française des Télécoms, 2017, online: https://www.fftelecoms.org/app/uploads/2017/05/Livre-blanc-FFTelecoms-Fin-du-RTC-1.pdf

[244] ARCEP. Décision n° 2018-0435-RDPI de l'Autorité de régulation des communications électroniques et des postes en date du 12 avril 2018 se prononçant sur une demande de règlement de différend opposant, d'une part, la société Orange et, d'autre part, les sociétés Free et Free Mobile, pp. 34-35, online: https://archives.arcep.fr/uploads/tx_gsavis/18-0435-RDPI.pdf pp. 34-35.

[245] ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ? *op. cit.,* note 239.

[246] *Ibid*.

[247] FRANCE. *Décision n° 2014-1102 du 30 septembre 2014, op. cit.,* note 240, sections 1.3.1.1.1 and 1.3.1.1.2, online: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000030136148

[248] ARCEP. *L'arrêt du réseau téléphonique commuté (RTC), grand dossier*, online: https://www.arcep.fr/la-regulation/grands-dossiers-reseaux-fixes/larret-du-reseau-telephonique-commute-rtc.html (consulted on December 3, 2021).

[249] ARCEP. *Évolution de la téléphonie fixe vers l'IP*, September 30, 2016, online: https://www.arcep.fr/fileadmin/reprise/dossiers/cuivre/arret-RTC-orange-30112015.pdf

[250] CLUB DES DIRIGEANTS RÉSEAUX ET TÉLÉCOMS, *Livre blanc : Regards d'experts sur l'arrêt du RTC*, 2017, p. 17. Online: https://www.tims.fr/wp-content/uploads/arr%C3%AAt-du-RTC.pdf

[251] FRANCE. Décision n° 2017-1568 du 21 décembre 2017 portant sur la définition des marchés pertinents de l'accès au service téléphonique pour la clientèle non résidentielle et du départ d'appel en position déterminée, la désignation

Orange's wireline discontinuation is being carried out in three major steps[252]. First, the provider stopped selling new subscriptions to traditional wireline telephony in the fall of 2018. The following year, Orange stopped selling new subscriptions to its Numeris network (ISDN/ISDN networks, networks that run on digital lines and are primarily used by businesses[253]). Existing subscriptions continue to apply for the time being. Finally, Orange will undertake the technical discontinuation of wireline access from 2023 until 2030. The wireline network will be discontinued for a set of *communes* each time, as the French territory has been divided into various *plaques* (groupings of *communes* and adjacent *arrondissements* in the same *département*)[254]. In accordance with ARCEP's instructions, Orange must announce the closure of a *plaque* to ARCEP at least five years before proceeding. Since 2018, Orange has announced various locations targeted for the first official closures, which will occur between 2023 and 2026 (nearly 2,500 *communes* are affected for 2023-2024)[255].

The provider intends to salvage the remaining good equipment in closed areas along the way, to replace faulty equipment in areas where the wireline network still remains active[256]. And the tonnes of network copper that are recovered will be sold to limit the provider's environmental impact and absorb some costs[257].

d'opérateurs exerçant une influence significative sur ces marchés et les obligations imposées à ce titre, Section 2.1.4, online: https://www.legifrance.gouv.fr/jorf/id/JORFSCTA000036485094

[252] *Ibid*; ARCEP. *L'arrêt du réseau téléphonique commuté (RTC), grand dossier*, online: https://www.arcep.fr/la-regulation/grands-dossiers-reseaux-fixes/larret-du-reseau-telephonique-commute-rtc.html (consulted on December 3, 2021).

[253] HERVÉ. *La fin du RTC, c'est pour quand ?* Echos du Net, October 28, 2021, online: https://www.echosdunet.net/dossiers/fin-rtc-ligne-telephonique

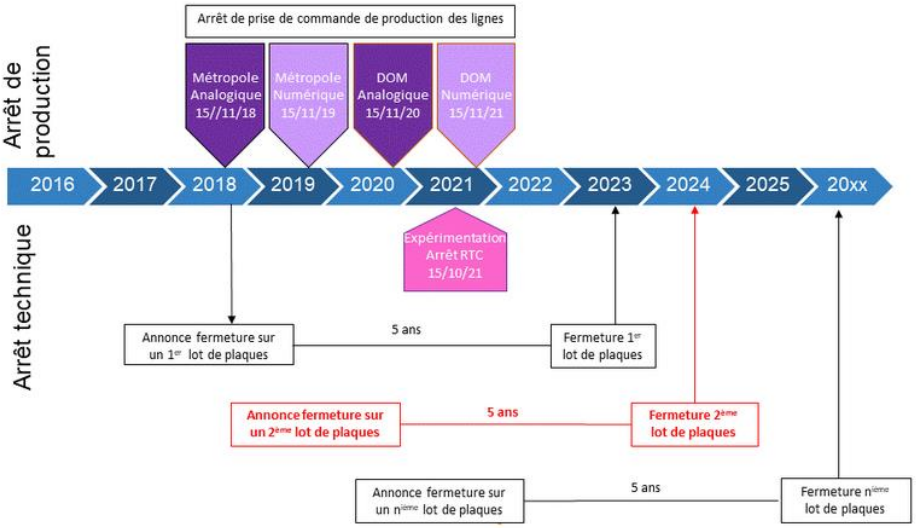
[254] ARCEP. *Évolution de la téléphonie fixe vers l'IP*, 2016, online: https://www.arcep.fr/fileadmin/reprise/dossiers/cuivre/arret-RTC-orange-30112015.pdf

[255] ARCEP. Consultation publique sur le bilan du cycle en cours, *op. cit.,* note 242, p. 9.

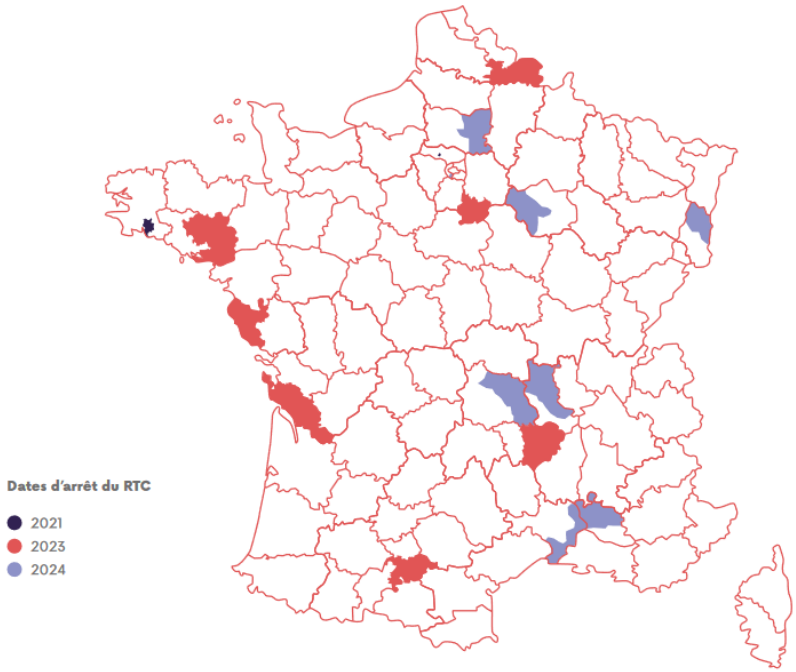
[256] ORANGE. *L'arrêt du Réseau Téléphonique Communauté : Quésaco de ce grand projet mené par Orange*, online: https://wholesalefrance.orange.fr/fr/actualites/larret-du-reseau-telephonique-communaute-quesaco-de-ce-grand-projet-mene-par-orange/ (consulted on December 3, 2021)

[257] PINAUD, O. *Orange va fermer son réseau de télécoms en cuivre, ce qui accélérera le passage à la fibre optique en France*, Le Monde, February 7, 2022, online: https://www.lemonde.fr/economie/article/2022/02/07/orange-engage-la-fin-du-reseau-de-telecoms-en-cuivre_6112581_3234.html

ARCEP: Orange's migration procedure[258]



ARCEP: regions affected by the first Orange measures[259]



[258] ARCEP. Numérisation progressive des réseaux de téléphonie — Quels sont les changements que l'arrêt du réseau téléphonique commuté (RTC) va provoquer ?, October 25, 2021, online: https://www.arcep.fr/demarches-et-services/utilisateurs/larret-progressif-du-reseau-telephonique-commute-rtc.html

[259] ARCEP. *La régulation de l'Arcep au service des territoires connectés, rapport d'activité, 2020*, p. 77, online: https://www.arcep.fr/uploads/tx_gspublication/rapport-TC-2020-avril2020.pdf

Over the past five years, the provider has conducted two pilot projects to introduce its teams to the new procedures and to identify the main issues that customers might encounter.

In February 2018, Orange stopped marketing new analog lines in 14 *communes* in France. We have not found any information on the results of this first experiment. We note, however, that the provider proceeded as planned to the generalized termination of the wireline offering there at the end of the same year.

In October 2021, it tested the mandatory transfer of its subscribers from analog service to its IP telephone service in six *communes* located in the Paris region and in the South Finistère region. These areas were chosen because they are representative of the general population and because of the variety of users in them (individuals, commercial areas, health clinics and nursing homes, prisons, etc.)[260]. As the experiment is still in progress at the time of writing, no results have yet been released.

7.1.3 The Treatment of Consumers

About 15% of French fixed-line subscribers will potentially be affected by Orange's changes to its service by 2023[261]. The remainder already subscribe to IP telephony or will do so by the time the first measures are implemented in 2023, as the natural decline in wireline telephony subscriptions is about 10% per year in France.

Here is how Orange intends to proceed with the approximately 6.5 million French people who may be affected[262]. The provider will contact each subscriber when his place of residence is affected by the upcoming wireline termination. Consumers will be offered the possibility to transfer their subscription to an IP telephony service. They will not be required to subscribe to an Internet access service at the same time, as the provider will provide the equipment required (a box and a cable) to connect the old device to the new network, free of charge, from the same wall socket. These boxes, which serve as a gateway in the absence of an Internet connection, are already provided to new Orange subscribers for whom wireline telephony is no longer available. They resemble the modem-router provided by Orange to its subscribers of other communication services[263]. While installation of the box is fairly straightforward, the provider says it is still aware of the difficulties that some less tech-savvy users might encounter. In 2018, a regional manager for the company stated:

> *Le branchement est simple, mais il faudra quand même intervenir dans un certain nombre de cas, notamment pour des personnes âgées afin de faciliter l'installation du boîtier fixe.*

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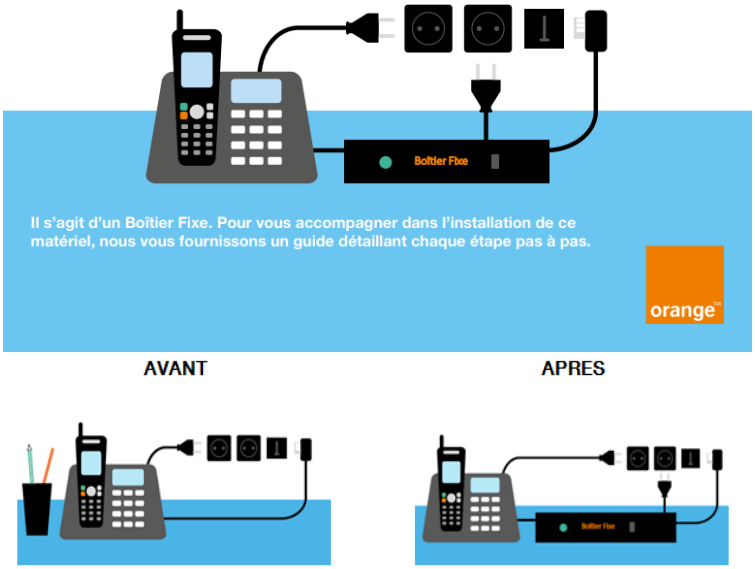
[260] *Val d'Oise: Osny, ville pilote pour l'arrêt du réseau téléphonique commuté*, Les Echos, November 11, 2020, online: https://www.lesechos.fr/pme-regions/ile-de-france/val-doise-osny-ville-pilote-pour-larret-du-reseau-telephonique-commute-1263931; HERVÉ. *La fin du RTC, c'est pour quand ?* Echos du Net, October 28, 2021, *op. cit.,* note 253.
[261] ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ?, *op. cit.,* note 239.
[262] It was estimated at 10 million people from 2018. With an annual decline of 10%, they are expected to be about 6.56 million people in 2023: *Fin du téléphone fixe: "10 millions de Français utilisent encore cette technologie*," RMC — Bourdin Direct, November 14, 2018, online: https://rmc.bfmtv.com/emission/fin-du-telephone-fixe-10-millions-de-francais-utilisent-encore-cette-technologie-1565841.html; ARCEP. *Quels sont les changements que l'arrêt du [RTC] va provoquer ?, op. cit.,* note 239.
[263] Orange: Le boîtier fixe pour la fin du RTC est une Livebox Play, Alloforfait, November 6, 2018, online: https://alloforfait.fr/internet/news/50925-orange-boitier-fixe-fin-rtc-livebox-play.html

Nous sommes en train de réfléchir à une prestation d'accompagnement comme on le fait, aujourd'hui, sur la mise en place de la fibre par exemple[264].

The majority of phones currently in use should be compatible with the new technology. According to the provider's documentation, all phones released since 2008 are compatible as well as all older phones that meet the DECT standard[265].

Following discussions with Orange, if the consumer refuses the transfer of service and the installation of necessary adaptations, the provider will ultimately terminate the contract and discontinue service for that consumer[266].

Illustrations from ARCEP[267]



Of course, a consumer may also choose to subscribe to the IP telephony service of a competitor of Orange. In this regard, ARCEP reminds consumers that the disconnection by Orange without prior transfer to another provider could prevent retention of the consumer's phone number[268].

At the request of ARCEP, Orange is making significant efforts to communicate with the French public. The provider's website includes multiple pages explaining its approach, including illustrations, videos and links to additional resources.

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[264] Téléphone fixe : la Haute-Loire, département pilote de la modernisation en Auvergne, La Montagne, October 27, 2018, online: https://www.lamontagne.fr/clermont-ferrand-63000/actualites/telephone-fixe-la-haute-loire-departement-pilote-de-la-modernisation-en-auvergne_13032987/

[265] ORANGE. La téléphonie fixe évolue pour les particuliers, online: https://reseaux.orange.fr/territoire-connecte/modernisation-telephone-fixe/particuliers (consulted on December 3, 2021).

[266] ARCEP. *Quels sont les changements que l'arrêt du réseau téléphonique commuté (RTC) va provoquer* ?, *op. cit.,* note 239.

[267] ORANGE. Est-ce que la téléphonie fixe va bientôt disparaître ?, online: https://reseaux.orange.fr/sites/default/files/orange_modernisation_reseau_fixe_gp-accessible_1_0.pdf (consulted on December 3, 2021); ORANGE. Orange agit pour moderniser la téléphonie fixe, October 26, 2018, online: https://www.orange.com/fr/newsroom/communiques/2018/orange-agit-pour-moderniser-la-telephonie-fixe

[268] ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ?, *op. cit.,* note 239.

7.1.4 The Accessibility of Telephone Service

As the largest provider in France, Orange has an obligation to provide universal telephone service. Under the *Code des communications électroniques et des postes* [269], Orange must offer a telephone service at an affordable rate throughout the country. This obligation is in no way affected by the termination of the wireline network since it is independent of the technologies chosen by the provider[270]. Orange must ensure that the wireline network's termination in certain areas does not result in the absence of telephony service in those areas. It must also continue to offer two basic subscriptions with regulated rates: a regular subscription for €17.96 per month and a so-called social subscription, reserved for people receiving certain government benefits, for €6.49 per month[271].

Of course, the financial impact of the end of wireline service for subscribers of other Orange or alternative operators' packages has worried many. Will prices be revised upward in the context of IP telephony?

ARCEP has not sought to regulate the pricing practices of providers in the context of the technology switch. On its website, it admits that the cost of the switch will depend on the alternative offers that consumers choose[272]. Therefore, there is no obligation for providers to transfer prices from analog to IP telephony service for their subscribers. However, several providers have already announced their intention to maintain similar prices. For the time being, at least, Orange intends to charge the same price that subscribers paid before the transfer[273]. Note that the provider had increased its rates by 6% in 2015 due to the increased costs of maintaining the wireline network and to the decline in customers using this technology[274].

7.1.5 Other Concerns

A review of available ARCEP documents shows that ARCEP is particularly concerned, in the context of its supervision of the termination of wireline networks by Orange, for businesses that use traditional telephony services. It must be said that, unlike individuals, the majority of businesses still subscribe to wireline telephony[275]. In a 2017 decision, the regulatory authority also pointed out that many businesses continue to duplicate their telephony subscriptions (IP and wireline) "pour des questions de sécurisation de l'accès et l'utilisation d'équipements uniquement compatibles avec le RTC [276]." In addition, the related equipment often has a very long lifespan (remote surveillance and alarm systems,

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[269] Code des communications électroniques et des postes, art. L. 35-1.
[270] ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ?, *op. cit.*, note 239.
[271] Décision ° 2017-1568 de l'Autorité de régulation des communications électroniques et des postes en date du 21 décembre 2017 portant sur la définition des marchés pertinents de l'accès au service téléphonique pour la clientèle non résidentielle [...], online: https://www.arcep.fr/uploads/tx_gsavis/17-1568.pdfhttps://www.arcep.fr/uploads/tx_gsavis/17-1568.pdf
[272] ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ?, *op. cit.*, note 239.
[273] ORANGE. La téléphonie fixe évolue pour les particuliers, *op. cit.,* note 265.
[274] GAZZANE, H. *Les tarifs du téléphone fixe augmentent dans l'indifférence générale*, Le Figaro, March 25, 2015, online: https://www.lefigaro.fr/conso/2015/03/25/05007-20150325ARTFIG00113-les-tarifs-du-telephone-fixe-augmentent-dans-l-indifference-generale.php
[275] "Bien que la migration du service téléphonique vers la VLB soit engagée, les trois-quarts des 9,4 millions d'abonnements souscrits en 2015 par les clients non résidentiels sont en RTC": ARCEP. *Décision ° 2017-1568 de l'ARCEP, op. cit.*, note 271, p. 32.
[276] ARCEP. Décision ° 2017-1568 de l'ARCEP, *op. cit.,* note 271, p. 49.

fax machines, elevators, etc.). The situation of medium and large companies is more worrying[277], given the perception of risk, justified or not, in the face of a migration of technology[278].

In the summer of 2020, ARCEP initiated a round of analysis of non-residential fixed telephony. Its objective was to adapt the regulations to the context of wireline discontinuation. In doing so, a large part of the analysis was devoted to issues relating to special uses developed on the wireline network and to the specific needs of businesses. Regarding the more technical aspects of equipment compatibility, the French authority appears to rely heavily on the FFT's work, mentioned above. The *Autorité* seems more interested in intervening regarding the risk of a double migration (transfer to an intermediate IP technology and subsequent transfer to optical fibre) for certain companies and the delays and costs that this would entail. In its public consultation document, ARCEP considers the potential advantage of direct migration and, if this is not possible, the desirable timeframe between the two migration steps[279].

The French regulator opines that in cases where it will be necessary to transfer to an intermediate network while waiting for the deployment of optical fibre in a given region, Orange should financially support alternative operators who will have to adapt their system twice[280]. We understand from ARCEP's request that it is concerned that the costs of the initial technology transfer, which can only be amortized over a relatively short period of time, will impair the ability of those providers to compete with Orange and that the costs will ultimately be passed on to consumers.

ARCEP has also publicly addressed a few other concerns that consumers or businesses may have with the termination of Orange wireline networks. Those concerns are as follows.

Security of IP telephony service in the event of a power failure: ARCEP has not imposed any specific measures on Orange[281]. A document available on its website states that consumers who are concerned about the possible loss of service in the event of a power outage can purchase a battery backup device[282]. Orange currently sells a battery backup device for €49, which ensures two hours of electrical continuity for the box attached to the phone[283].

The quality of calls using IP technology and the uneven quality of the Internet network: ARCEP is of the view that "le niveau de qualité des conversations via une box est au moins aussi bon que celui des conversations via le réseau historique[284]." In response to concerns about the uneven quality of the Internet network available in France, the authority maintains that the speed required for telephone service is relatively low and that alternative solutions exist if the Internet networks are insufficient (satellite, fixed 4G, etc.).

The maintenance of remote monitoring and personal teleassistance devices: ARCEP seems concerned about the fate of these devices, especially for businesses. However, it has not intervened in the residential sector, simply stating that there are "*des solutions mobiles et/ou compatibles avec les réseaux de*

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277 ARCEP. Consultation publique sur le bilan du cycle en cours, *op. cit.,* note 242, pp. 13 and 15.
278 *Ibid.*, p. 6.
279 *Ibid.*, p. 22.
280 *Ibid.*, pp. 24-25.
281 PLUM. *Preparing the UK for an All-IP future: experiences from other countries*, December 2018, p. 41, online: http://www.broadbanduk.org/wp-content/uploads/2018/12/Plum-BSG-Preparing-the-UK-for-all-IP.pdf
282 ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ?, *op. cit.,* note 239.
283 ORANGE. Batterie de secours 2H, *op. cit.,* note 283.
284 ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer ?, *op. cit.*, note 239.

nouvelle génération [...] pour la plupart des usages spéciaux initialement développés sur le réseau RTC[285]." Orange puts the responsibility on consumers, by encouraging them to approach their remote monitoring and assistance service providers to modify, if necessary, the selected services in order to ensure that they are compatible with IP technology[286].

Fraud: ARCEP has expressed concern about possible misinformation surrounding the termination of wireline service in France. On its website, it calls on consumers and businesses to be very vigilant in the face of canvassing by "unscrupulous" companies suggesting, in order to force the conclusion of new telephone contracts, that Orange's service will be immediately discontinued. The authority also records reports on this subject on its interactive help platform *J'alerte l'Arcep*[287].

7.2 Steps Taken in the United Kingdom

The end of the wireline network in the UK has been discussed for several years now. Major residential telephone providers, such as BT and Virgin Media, have already started to migrate their subscribers to IP telephony, which could be completed by 2025. In addition, Openreach, an entity owned by the giant BT, which controls and provides (wholesale) access to its network to some 650 retail providers, has begun the process.

The British model is faster and less uniform than the process that has prevailed in French undertakings, and it is also distinguished by the greater and more varied intervention of the national regulator.

7.2.1 The Regulator's Role

The regulatory authority for telecommunications in the United Kingdom is the Office of Communications, better known as Ofcom. It also has jurisdiction over broadcasting and postal services.

Unlike ARCEP in France, Ofcom does not have the power to approve or deny the termination of a wireline telephone service by certain retail service providers. It is very active on the subject and gets involved in the providers' approaches, but the decision ultimately rests with the providers.

> *This means that the switch to phone calls over broadband will be undertaken by different companies, at different times, and in different locations depending on their plans*[288].

Ofcom has publicly supported the decision of BT, Virgin Media and other providers to phase out the wireline service. In addition to mentioning the difficulties associated with maintaining the infrastructure[289], it argued that the complete transfer to IP telephony would enable the development of new telephony products, features or packages and would facilitate the entry of new providers into

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[285] *Ibid*.
[286] ORANGE. Est-ce que la téléphonie fixe va bientôt disparaître ?, *op. cit.,* note 267.
[287] ARCEP. Quels sont les changements que l'arrêt du [RTC] va provoquer *?*, *op. cit.,* note 239.
[288] OFCOM. *The future of fixed telephone services, Policy positioning statement*, February 22, 2019, par. 1.5, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0032/137966/future-fixed-telephone-services.pdf
[289] OFCOM. *Connected Nations*, December 16, 2016, par. 7.19, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0035/95876/CN-Report-2016.pdf

the UK market[290]. And since an Internet connection will now be required to obtain telephone service, the authority argues that this transition may accelerate the achievement of its goal of universal broadband access ("by default")[291].

In general, Ofcom focuses its efforts in this area on three main themes: protecting subscribers, coordinating with and among providers, and maintaining adequate competition in the telephony services market[292]. It is doing significant monitoring of each provider's approaches and plans, including through the data they collect. As companies begin to move their subscribers to IP telephony, the regulator is interested in receiving information on IP service adoption rates, the quality of services offered, and an analysis of complaints received by providers[293]. Of course, it will also closely monitor complaints made directly to it on this subject[294].

The case of Openreach

Ofcom cannot control the choice of retail wireline providers to terminate their respective services, but it does control wholesale access to the wireline network. In the United Kingdom, this access is provided by Openreach, a separate entity, but owned by BT and responsible for the administration of the latter's networks. This functional separation from the provider follows an intervention by Ofcom to facilitate competition in the UK market[295].

As part of its 2021-2026 review of the wholesale fixed telecoms market, Ofcom has put in place rules applicable to Openreach regarding its wireline network. These rules are constructed in the form of tiers that the provider must reach before making certain changes and ultimately cutting off access to said network.

Reaching the first tier allows the wholesale provider to prevent providers using its network from offering new subscriptions from the wireline network. At this point, existing subscriptions are maintained, similarly to the process adopted in the French model. In order to implement this prohibition on new subscriptions, Openreach must make an announcement 12 months in advance, and only if it expects to achieve 75% ultra-fast broadband coverage (minimum speed of 300 Mbps, typically a fibre network) in the given territory by the due date[296]. As an exception, new subscriptions are still possible for residents who do not have access to the high-speed Internet network.

The second tier can be reached a minimum of two years later and then allows Openreach to cease offering access to its wireline network entirely anywhere in the area where a fast Internet connection is available. Again, the wholesale provider must provide at least one year's notice[297].

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[290] *Ibid.*, pars. 7.22 and 7.23.
[291] *Ibid.*, par. 7.23.
[292] OFCOM. The future of fixed telephone services, *op. cit.,* note 288, par. 2.4.
[293] *Ibid.*, par. 2.30.
[294] *Ibid.*, par. 2.31.
[295] ESPINER, T. *BT ordered to split legally from Openreach by Ofcom*, BBC, November 29, 2016, online: https://www.bbc.com/news/business-38141510
[296] OFCOM. *Promoting competition and investment in fibre networks: Wholesale Fixed Telecoms Market Review* 2021-26, vol. 1, March 18, 2021, Table 2.5, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0022/216085/wftmr-statement-volume-1-overview.pdf
[297] *Ibid*.

The numerous working groups and meeting places

Ofcom has held meetings with a variety of stakeholders since BT's initial announcements in the mid-2010s. Unlike ARCEP, which appears to have focused primarily on talking to service providers, Ofcom has also consulted with consumer advocacy or protection groups, as well as producers and providers of third-party services that may be affected by changes to the telephone infrastructure[298].

Ofcom has established three separate working groups to monitor, analyze and oversee the potential termination of wireline services in the UK. These groups, which include representatives from providers, third-party services and the regulator and government, generally meet once a quarter[299]. Their respective mandates include:

- Created in 2017, the Technical All IP Working Group serves as a forum for information exchange and discussion on certain technical issues. It is worth noting that this group met with representatives of the *Fédération Française des Télécoms* in 2019 to discuss the French approach and experience[300]. For the past two years, the committee has focused primarily on technical issues related to third-party services, as many of the broader issues are now being addressed by the All IP Steering Group[301].

- The Communications All IP Working Group was created at the same time as the first working group to provide a forum for sharing information about consumer communications in the context of service migration. Members of the group identify best practices and work to standardize terminology[302]. Ofcom works with organizations such as Age UK, Which? and Citizens Advice[303].

- Established in 2019, the All IP Steering Group is responsible for coordinating the All IP committees and their members and ensuring that information to be shared, including migration plans and timelines developed or considered[304], is updated.

More than 200 stakeholders are said to have participated in the work of the various groups[305]. In addition to the work of the various committees that Ofcom directly oversees, the latter is also involved in the Network Interoperability Consultative Committee as an observer member[306]. This independent committee, which includes representatives of the government and of telecommunications providers, works to develop interoperability standards for communications networks and services in the UK.

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[298] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 2.16, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0032/137966/future-fixed-telephone-services.pdf
[299] *Ibid.*, par. 2.6.
[300] OFCOM. All-IP Working Group, PowerPoint presentation at the September 24, 2019 meeting, p. 9, online: https://www.uktelehealthcare.com/wp-content/uploads/2019/10/All-IP-Voice-Technical-Working-Group-240919.pdf
[301] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, pars. 4.15 and 4.3.
[302] *Ibid.*, pars. 4.15 and 4.4.
[303] OFCOM. All-IP Working Group, PowerPoint presentation at the meeting of April 26, 2021, p. 7, online: https://www.uktelehealthcare.com/wp-content/uploads/2021/05/26042021-Ofcom-All-IP-Working-Group-Slides.pdf
[304] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 4.15.
[305] OPENREACH. All IP Update, February 2021, p. 14, online: https://www.uktelehealthcare.com/wp-content/uploads/2021/02/openreach_ALL_IP-and-WLR-Withdrawal-Industry-Update-Feb-21-Master.pdf
[306] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, pars. 4.10 to 4.12.

The guiding principles set out by the UK authority

Although the decision whether or not to migrate their services to IP telephony is up to the providers, Ofcom has been actively involved in the discussions, mainly in the various working groups and other venues described above. It developed principles as early as 2016 in its Connected Nations report that should guide providers in this process. It elaborated further in a 2017 supplemental report and then in a "Policy Positioning Statement" in 2019. Given the way these principles are written, they do not appear to be regulatory obligations per se. They appear more like "expectations" that the authority has of providers, but are at times accompanied by threats of formal intervention…

> *Ofcom has an important role to play in setting out our expectations for switch off, whilst it is industry's role to set out how this will be achieved. Ofcom will monitor industry's progress, and enforce specific obligations in due course, as the process takes place*[307].

Reflecting Ofcom's particular concern for these issues, many of the principles relate to third-party services and communication with consumers. Here are some of the key principles for a successful transfer to IP telephony, according to the UK authority:

- The migration of subscribers from wireline to IP telephony service should be planned by providers to minimize disruption to subscribers in all respects[308].
- While Internet access is required for IP telephony, consumers of this service alone should not have to subscribe to an Internet access service to access it. Providers should allow activation of a telephony-only component and/or provide a telephony-only router[309].
- Communications from providers or their aggregators to consumers should be clear, timely and in a format that takes consumer needs into account. They should specifically address the potential impact of the change on third-party services[310].
- Providers should identify their subscribers who use third-party services that may be affected by IP migration and develop communication plans specifically for them[311].
- Major providers should actively collaborate with third-party service providers, including allowing them to conduct tests on the major providers' IP networks[312].
- Providers should have specific procedures in place for the (unplanned) failure of a third-party service following a subscriber's migration to IP. In case of risk, the subscriber should ideally be able to be temporarily switched back to a wireline service[313].

In June 2020, Ofcom also asked the second Office of the Telecommunications Adjudicator (OTA[2]) to develop a general guide to industry best practice for future consumer migration to IP telephony[314]. Some new elements – dealing with emergency situations and business needs – are worth noting:

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[307] OFCOM. *Connected Nations*, *op. cit.,* note 289, par. 7.44.
[308] *Ibid.*, par. 7.38.5.
[309] *Ibid.*, par. 7.28.
[310] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 2.19.
[311] *Ibid*.
[312] *Ibid*.
[313] *Ibid*.
[314] The agency is the originator of a guide specific to Openreach pilot projects: OFFICE OF THE TELECOMMUNICATIONS ADJUDICATOR (OTA[2]). *Trial Best practice guide*, September 23, 2020, online: http://www.offta.org.uk/__data/assets/pdf_file/0018/191124/draft-trial-best-practice-guide.pdf

- Providers should include at least one solution that allows continuous access to emergency services for at least one hour in the event of a power outage. The solution(s) selected should take into account the reality of subscribers (e.g., coverage and accessibility of other services, user capacity)[315].
- Providers' communications to consumers, as part of the migration process and the sales process for an IP service, should be clear about service interruption in the event of a power outage or of an Internet connection interruption[316].
- Providers should develop migration plans specific to commercial customers, including consideration of their organizational and time requirements (e.g., normal working hours)[317].

A joint public communication initiative

Ofcom has also offered its support to an initiative by the Broadband Stakeholder Group, the UK government's advisory body on telecommunications. This group is working with providers and Ofcom representatives to develop an explanatory website, called "Future Of Voice," which explains the end of wireline telephony and the migration to IP-based services[318]. At the time of our research, the website contained relatively little interesting information.

7.2.2 The Steps Taken by UK Providers and Openreach

As previously mentioned, not all UK providers will necessarily migrate their subscribers to IP telephony at the same time. Still, it seems that the final cut-off of the wireline network in 2025 is a project common to many, and has been for several years now. As early as 2016, Ofcom issued official reports about, for example, BT and Virgin Media's plans in that regard[319].

BT and Openreach's approaches

BT announced its intention to transfer its subscribers from wireline to IP several years ago[320]. The provider also announced its intention to end access to its infrastructure via Openreach. Like Orange in France, the giant BT says the infrastructure – which is more than 35 years old – is now at the end of its life[321]. Openreach will proceed in two stages. It will stop selling new home phone services from its infrastructure in the majority of UK regions by 2023[322]. This step, called "stop sell," will also limit what can be done and requested by subscribers whose service will be continued. Then, Openreach will end

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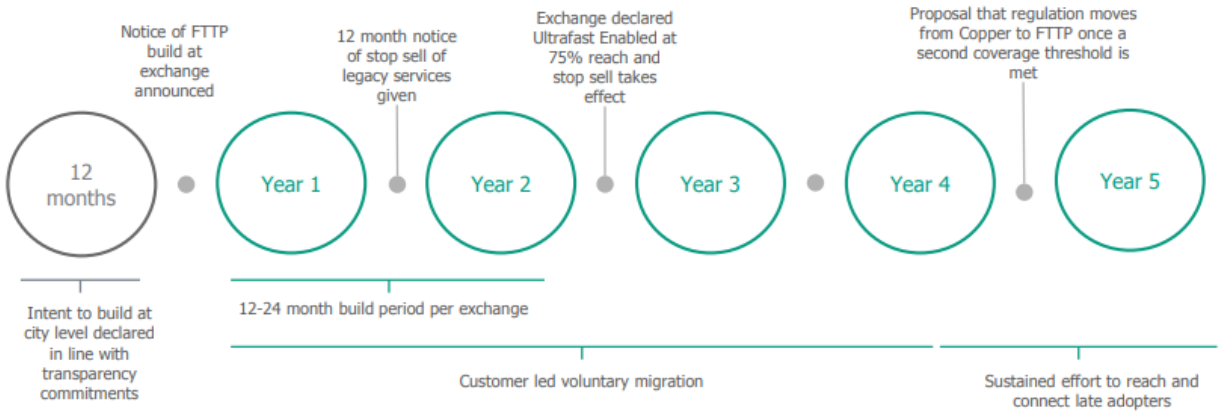
[315] OTA[2]. Industry Principles for All-IP Migration – Best Practice Guide, 2nd version, updated August 16, 2021, pp. 3-4, online: http://www.offta.org.uk/best-practice-guide
[316] *Ibid.*, p. 3.
[317] *Ibid.*, p. 5.
[318] FUTURE OF VOICE. *Home Phone Users*, online: https://www.futureofvoice.co.uk/ (consulted on January 28, 2022). In November 2022, the website still stated: *Last updated: 22/06/2020.*
[319] OFCOM. Connected Nations, *op. cit.,* note 289, par. 7.20.
[320] *Ibid.*, par. 7.20.1.
[321] OPENREACH. *Getting ready for digital phone lines*, online: https://www.openreach.com/upgrading-the-UK-to-digital-phone-lines/industry (consulted on February 4, 2022).
[322] *Business phone systems-Closure of landlines and fixed telephone services, guide*, NI Business Info, online: https://www.nibusinessinfo.co.uk/content/closure-landlines-and-fixed-telephone-services (consulted on January 24, 2022).

access to its wireline network entirely by the end of 2026[323]. De facto, BT and all other providers that use BT's infrastructure will no longer offer any wireline telephony services at that time. They may also choose to terminate their respective offers before those dates[324].

The choice of dates is influenced by the timing of the rollout of fibre broadband in the UK[325], as the wholesale provider must meet certain Ofcom requirements. For example, it must announce the end of new service sales 12 months in advance in an area that will have at least 75% fibre coverage. The first announcements were made in 2020 for more than 100 areas that would reach this rate by June 2021[326]. An additional 550 areas were announced for August 2022[327]. Full termination of service will occur within a period of up to three years after this first step.

Illustration of Openreach[328]



BT has been active for several years now to facilitate the transition. An IP infrastructure test centre was opened in July 2018. About 40 producers and providers have since gone there to test their products. The test results have been discussed between them and BT to identify potential issues[329].

Openreach has also been running pilot projects since January 2020 in two English municipalities (Salisbury and Mildenhall, which have about 30,000 residential and commercial consumers)[330]. The providers that use Openreach's infrastructure in these areas are involved in the project, since they are the ones in direct contact with consumers. It is important to note that the choice of locations for the

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323 OPENREACH. *Retiring our copper network*, online: https://www.openreach.com/fibre-broadband/retiring-the-copper-network (consulted on February 4, 2022).
324 *Ibid*.
325 OFCOM. Promoting competition and investment in fibre networks-Measures to support Openreach's proposed trials in Salisbury and Mildenhall – migrating customers to fibre and withdrawing copper services, January 29, 2020, p. 2, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0021/190362/statement-openreach-trial-salisbury-mildenhall.pdf
326 OFCOM. All-IP Working Group, PowerPoint presentation at the May 28, 2020 meeting, pp. 18-20, online: https://www.uktelehealthcare.com/wp-content/uploads/2020/05/All-IP-Working-Group-28-May-20.pdf
327 OPENREACH. *Retiring our copper network*, *op. cit.,* note 323.
328 OPENREACH. *All IP Update*, *op. cit.,* note 305, p. 13.
329 OFCOM. All-IP Working Group, PowerPoint presentation at the September 24, 2019 meeting, pp.14-15, online: https://www.uktelehealthcare.com/wp-content/uploads/2019/10/All-IP-Voice-Technical-Working-Group-240919.pdf
330 *Ibid.*, pp. 32-34.

pilot projects was subject to prior consultation. The pilot projects serve to test the adequacy of the process of migrating consumers to Opeanreach's new (IP) infrastructure and to gather feedback from consumers[331]. The pilots also aim to enable providers using Openreach to develop and test new service offerings from the IP access[332].

Both pilot projects are spread over two years to accommodate Ofcom's requirements. According to an 2020 Openreach document, the initial voluntary migration rate to IP telephony was quite low, similar to the migration rate seen in normal times[333]. A year after the projects began, the wholesale access provider was even allowed by Ofcom to temporarily change some tariffs in the affected areas to encourage consumer participation in the migration process[334]. Under the projects, consumers are also free to migrate to a provider that does not or no longer uses Opeanreach's infrastructure, where such a provider is available[335]. The first results of the pilot projects also show a significant lack of awareness of the ongoing process, among individuals and businesses, but also among telephony service providers themselves[336]! The pilot projects are expected to be completed by the end of 2022, barring any changes.

Virgin Media's steps

Unlike the majority of other UK providers, Virgin Media does not rely on BT's infrastructure (and its access via Openreach) to provide its wireline telephony service. Virgin Media is therefore free to maintain that service as long as it wishes. However, it has chosen to align its own IP migration timetable with that of its rival, i.e. to end wireline service by 2025[337].

The steps taken by Virgin Media are very similar to those of BT and Openreach. Like them, Virgin Media has opened and provided access to a test centre, the IP Voice Test Lab[338]. It has also conducted a pilot project, between September 2019 and March 2020, in three small towns in the Southwest of England (1,700 subscribers affected). Smaller in scale, this pilot project also had a narrower focus than BT's: to test the company's communication tools and channels (e.g., the quality of written content and

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[331] OFCOM. Promoting competition and investment in fibre networks-Measures to support Openreach's proposed trials in Salisbury and Mildenhall, *op. cit.,* note 325, par. 2.10.
[332] O'HALLORAN, J. *Openreach warns UK firms to check comms CPE ahead of analogue switch-off*, Computer Weekly, 1 July 2021, online: https://www.computerweekly.com/news/252503303/Openreach-warns-UK-firms-to-check-comms-CPE-ahead-of-analogue-switch-off
[333] OFCOM. All-IP Working Group, PowerPoint presentation at the May 28, 2020 meeting, pp. 12-13, online: https://www.uktelehealthcare.com/wp-content/uploads/2020/05/All-IP-Working-Group-28-May-20.pdf
[334] OFCOM. Promoting competition and investment in fibre networks-Measures to support Openreach's proposed trials in Salisbury and Mildenhall, *op. cit.,* note 325, p. 27 and fol.
[335] *Ibid.*, par. 1.6.
[336] OFCOM. All-IP Working Group, PowerPoint presentation at the October 26, 2020 meeting, p. 15, online: https://www.uktelehealthcare.com/wp-content/uploads/2020/12/All-IP-Working-Group-Oct-20.pdf
[337] OFCOM. All-IP Working Group, PowerPoint presentation at the May 28, 2020 meeting, p. 38, online: https://www.uktelehealthcare.com/wp-content/uploads/2020/05/All-IP-Working-Group-28-May-20.pdf; OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 1.4.
[338] OFCOM. All-IP Working Group, PowerPoint presentation at the September 24, 2019 meeting, p. 7, online: https://www.uktelehealthcare.com/wp-content/uploads/2019/10/All-IP-Voice-Technical-Working-Group-240919.pdf

customer service provided during the process)[339]. In total, Virgin Media completed all of the following communication steps[340]:

- Initial letter sent to customers, local authorities and other relevant agencies, to announce a future pilot project;
- A second letter sent to each consumer detailing the changes and proposing various IP telephony plans;
- Calling or sending follow-up text messages to consumers;
- A third letter sent detailing the exact schedule of upcoming changes;
- Home visits to consumers who did not respond to the second letter;
- A fourth letter sent to consumers and a second letter sent to local authorities and other relevant agencies to indicate the exact date of the upcoming service migration.

The provider subsequently conducted a survey to determine the level of consumer satisfaction with the communications received and what, if any, additional needs they had. Consumers were generally satisfied, although there was some criticism of the information available on the provider's website[341]. As for the service itself, two-thirds of consumers did not see any change.

7.2.3 The Treatment of Consumers

The migration to IP telephony by 2025 will affect approximately 14 million UK households[342]. Two million consumers subscribe only to residential telephony (without wireless service)[343]. Unlike in France, residential telephony over the wireline network is still the most popular option for consumers today; in December 2020, just 8% of residential telephony subscriptions were IP-based in the UK[344].

Subscribers will first be encouraged to migrate to an IP telephony service, but will be free to keep their wireline service if they prefer. Then, after no more than three years, they will be forced to make the transition, or lose their access to residential telephony. Ofcom has repeatedly stated that consumers who do not voluntarily migrate should not "be worse off" than before the procedure[345]. The British authority seems concerned about the treatment of more-recalcitrant consumers.

The way future IP telephony services will work in the UK is very similar to the way it works in France. Consumers will need an Internet connection, but not necessarily a subscription to an Internet access service. They will need to plug in a box or router to connect the phone to the network. As in France, some UK consumers may need assistance with installation; Ofcom expects providers to offer the necessary assistance free of charge, particularly to vulnerable consumers, the elderly or those with

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[339] OFCOM. All-IP Working Group, PowerPoint presentation at the May 28, 2020 meeting, p. 39, online: https://www.uktelehealthcare.com/wp-content/uploads/2020/05/All-IP-Working-Group-28-May-20.pdf
[340] *Ibid.*, p. 43.
[341] *Ibid.*, p. 43.
[342] FLAHERTY, N. *UK looks to end of analogue landlines*, EE News Europe, June 30, 2021, online: https://www.eenewseurope.com/news/uk-looks-end-analogue-landlines
[343] PLUM. Preparing the UK for an All-IP future, *op. cit.,* note 281, p. 30.
[344] OFCOM. All-IP Working Group, PowerPoint presentation at the meeting of April 26, 2021, p. 6, online: https://www.uktelehealthcare.com/wp-content/uploads/2021/05/26042021-Ofcom-All-IP-Working-Group-Slides.pdf
[345] OFCOM. *Connected Nations*, *op. cit.,* note 289, par. 7.38.7.

disabilities, impairments or particular limitations[346]. With some exceptions, existing telephones will be compatible with the new system and consumers will be able to keep their phone number[347]. According to an Ofcom analysis, maintaining a similar look and feel to the service will be particularly important for about half of current wireline subscribers[348].

In addition, it is clear from the regulator's requests and the providers' approaches described above that consumer information and awareness of the migration from wireline to IP telephony services is central to the UK context. Ofcom is working with providers and consumer rights organizations on this issue through the Communications All IP Working Group. BT's pilot projects have shown that the upcoming changes are still not well known by British consumers, which could ultimately lead to several undesirable forced transfers. The situation is not much better for retailers; results of a 2021 survey indicate that almost half of retailers are unaware that their wireline service will cease by December 2025[349]! So in terms of communication, there is still a long way to go...

Finally, it should be noted that the protections to which British consumers are entitled will not be affected by the migration to IP telephony[350]. For example, the rules regarding the treatment of vulnerable consumers and customers in default of payment, as well as the social tariffs available to certain low-income consumers, will apply[351].

7.2.4 The Accessibility of Telephony

The affordability of residential telephony is being assessed on two fronts, in the context of the shift to IP-based services in the UK.

With respect to physical access to the service, the most recent UK data indicate that 2% of British households (approximately 1.5 million households) have no access or no stable access to the Internet[352]. These households could therefore lose access to home telephony as a result of the changes announced, and in some cases already underway. In this regard, in March 2018, the government passed a law on the universality of Internet access service. This allows households to demand the deployment of a network reaching their homes[353]. Ofcom ensures the implementation of this legislation.

The other fundamental element of universal access to residential telephony in the UK relates to the costs of IP services. Like ARCEP, Ofcom has chosen not to regulate the pricing practices of service

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[346] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, pars. 1.12 and 2.15; OFCOM. Connected Nations, December 16, 2016, par. 7.38.8, online: https://www.ofcom.org.uk/__data/assets/pdf_file/0035/95876/CN-Report-2016.pdf
[347] AGE UK. *Changes to landline telephones*, online: https://www.ageuk.org.uk/information-advice/money-legal/consumer-issues/changes-to-landline-telephones/ (consulted on January 24, 2022)
[348] OFCOM. *Connected Nations*, *op. cit.,* note 289, par. 7.29.
[349] JACKSON, M. *Businesses Unprepared for End of Openreach's Copper Phone*, ISP Review, May 14, 2021, online: https://www.ispreview.co.uk/index.php/2021/05/businesses-unprepared-for-end-of-openreachs-copper-phone.html
[350] OFCOM. *Connected Nations*, *op. cit.,* note 289, par. 7.38.3.
[351] *Ibid*.
[352] LAVIGUEUR, N. *Fears over end of landlines as frustrated Yorkshire customers struggle with rubbish cell phone signals*, Yorkshire Live, 18 August 2021, online: https://www.examinerlive.co.uk/news/uk-world-news/fears-over-end-landlines-frustrated-21331477; KLEINMAN, Z. Internet access: 1.5 m UK homes still offline, Ofcom finds, BBC, 28 April 2021, online: https://www.bbc.com/news/technology-56906654
[353] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 2.26.

providers in the context of IP migration. And like in France, the main provider involved in this issue has promised to maintain certain tariffs for a period of five years[354]. This promise only applies to household subscriptions that are limited to residential telephony (and do not include an Internet access service).

Despite the technological changes, BT maintains its status as a provider of universal residential telephone service (the provider KCOM shares this status with it). BT therefore has an obligation to accept consumer requests for subscriptions, as long as they are reasonable in the context, and must offer the service at the same prices to all consumers[355].

7.2.5 Other Concerns

Four main issues have been of particular interest to Ofcom since BT's initial announcements. In addition to the issues discussed above regarding service accessibility and acceptable treatment of residential subscribers, the UK regulator has intervened publicly on another issue, that of IP service security in the event of a power failure. And like ARCEP, Ofcom has focused on the adaptability and transformation of other services and products that rely on wireline infrastructure (called "downstream services" in the UK).

Emergency situations

UK telephony service providers currently have an obligation to take all necessary steps to ensure access to emergency services (999 in the UK) in the event of a power failure[356]. Since IP services, unlike wireline services, do not operate during an outage, Ofcom published guidelines in 2018, designed to ensure that this obligation regarding guaranteed access is still met in the future[357]. Note that these are not new regulatory obligations per se, but rather an adaptation of the regulator's interpretation of the original obligation. Theoretically, a provider could therefore attempt to meet it in another way[358].

The principles developed by Ofcom in 2018 can be summarized as follows[359]: An IP service provider should ensure that its subscribers have at least one means of contacting emergency services in the event of an outage, and for at least one hour. This means will vary from subscriber to subscriber and should be adapted to their reality (needs, capabilities, etc.). Providers should provide this means (read: emergency battery) free of charge to their subscribers who do not have access to wireless telephony. And providers should be proactive in identifying particularly vulnerable consumers.

It has not been possible to determine whether BT and Virgin are following or have followed Ofcom's recommendations in their pilot projects, particularly with regard to offering a free battery. BT's website

[354] AGE UK. *Changes to landline telephones*, *op. cit.,* note 347.
[355] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 2.26.
[356] OFCOM. *General Conditions of Entitlement*, general condition A3.2(b).
[357] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, pars. 2.22 and 2.23.
[358] OFCOM. *Connected Nations*, *op. cit.,* note 289, pars. 7.33 and 7.38.2.
[359] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, pars. 2.22 and 2.23.

simply states “If there's a power cut, please make calls using an alternative method, such as a cell phone[360].”

Third-party services

Aware of the potential impact of the wireline network on the operation of certain devices (alarms, card payment terminals, elevators, etc.), Ofcom has repeatedly argued that the migration to IP cannot take place without involvement by the producers and providers of those products and services. The authority is particularly concerned about security alarms and telemedicine devices, whose malfunctioning can put consumers' lives at risk[361]. In this regard, it should be noted that Virgin Media's pilot project identified that approximately 1% of the subscribers targeted for service migration may have a telemedicine device connected to the wireline network[362].

Ofcom has not taken any specific action; rather, it has encouraged wireline providers to identify, support and interact with producers of products and services that may be affected. This is what providers seem to be doing so far, by opening test sites, presenting at trade shows, developing mailing lists, etc.[363]. Ofcom is working with government and provider representatives on this issue through the Technical All IP Working Group.

Eventual adaptation of the regulatory framework for wholesale access

Finally, Ofcom has also made some observations about the eventual impact of the migration to IP on its regulation of wholesale telephony and network interconnection. It has not yet taken any measures in this respect, but the following two observations are worth noting:

- Ofcom expects that the migration to IP telephony will lead to a simplification of interconnection regimes (which allow customers of different service providers to communicate with each other) and facilitate competition between providers[364]:
- Ofcom believes that it may need to review its approach to wholesale access pricing. With the convergence of home phone and wireless services, both in terms of how they are delivered and how consumers use them, different wholesale pricing for different services may become unjustified[365]. The UK regulator is also considering revising its regulatory approach to take account of platforms used by consumers to communicate, but which are not currently subject to the same open access and interconnection rules as telephony service providers[366].

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[360] BT. Digital Voice: *Will my service work in a power cut*, online: https://www.bt.com/help/landline/digital-voice--will-my-service-work-in-a-power-cut- (consulted on February 14, 2022).
[361] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 2.15.
[362] OFCOM. All-IP Working Group, PowerPoint presentation at the May 28, 2020 meeting, p. 44, online: https://www.uktelehealthcare.com/wp-content/uploads/2020/05/All-IP-Working-Group-28-May-20.pdf
[363] OFCOM. *The future of fixed telephone services*, *op. cit.,* note 288, par. 2.12.
[364] *Ibid.*, par. 3.15.
[365] *Ibid.*, par. 3.16.
[366] *Ibid*.

7.3 The United States' Approaches

The U.S. context differs from that of the two countries studied above in the complexity of the steps that have been taken to date. While the cessation of wireline telephony has been discussed since 2009, much remains to be done. Confusion reigns, especially since the applicable framework has been developed and then modified, or even cancelled altogether, according to the changes of presidents at the Federal Communications Commission (FCC), the American agency responsible for overseeing telecommunications in the country.

Given the changes in regulatory approach, the FCC's concerns will be addressed directly in our presentation of the relevant decisions, rather than in a separate section.

7.3.1 A Background on the AT&T and Verizon Approaches

In the United States, five providers share the vast majority of residential telephone subscribers[367]. Among them are the giants AT&T and Verizon, each with their own large wireline network. These providers still hold near-monopolistic market shares in certain regions of the country.

In the early 2010s, AT&T announced its desire to stop offering wireline phone service beginning in 2020. Verizon had a similar plan, but the dates remained unclear, as the company wanted to phase out[368].

First, the U.S. providers' actions with respect to their wireline networks are far more controversial than those of their French and British counterparts. The reasons for terminating service are very similar: the high cost of maintaining the infrastructure, the continued loss of customers, the shift of investment to the deployment of wireless telephone and Internet access networks[369]. However, the initial approach to terminating the service is more disruptive.

While in France and the UK, providers are actively removing the wireline infrastructure after ensuring that their subscribers are transferred to IP service, AT&T and Verizon are reportedly discontinuing service by allowing the infrastructure to deteriorate and neglecting to repair it as it goes. Their subscribers, who would then inevitably become increasingly dissatisfied with the quality of service and repeated service outages, would be asked to migrate to wireless or IP service. This is referred to as a "de facto" termination of wireline service:

> *There are two ways companies can retire copper. First, they can retire the technology traditionally by removing or disabling the copper so that customers can no longer use the service enabled by copper. Second, they can "de facto" retire the technology, meaning they simply do not invest in maintenance or upgrades to the network, effectively deteriorating the*

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[367] FCC. 2020 *Communications Marketplace Report*, FCC 20-188, December 31, 2020, par. 145.
[368] SVENSSON, P. *Telephone companies to abandon land lines*, Salon, July 9, 2013, online: https://www.salon.com/2013/07/09/telephone_companies_abandon_copper_phone_lines_ap/
[369] HANSELL, P. *Will the Phone Industry Need a Bailout, Too?*, New York Times, May 8, 2009, online: https://bits.blogs.nytimes.com/2009/05/08/will-the-phone-industry-need-a-bailout-too/; ZIEGLER, C. *Is AT&T's plan to end landline phone service crazy, or just crazy enough?,* The Verge, November 7, 2012, online: https://www.theverge.com/2012/11/7/3613198/att-project-velocity-ip-rural-fcc

> *infrastructure so much that it doesn't provide consistent or reliable enough connectivity for the services that run on it*[370].

Following Hurricane Sandy, which destroyed or greatly damaged facilities in New York and New Jersey in 2012, Verizon, for example, chose not to repair those affecting smaller communities. In some areas, the provider installed a fibre network rather than repair its wireline network. In other areas, it simply did nothing unless its subscribers insisted and refused a subscription to its wireless services[371]. A legal battle with the New York Attorney General ensued, leading Verizon to abandon its original plan[372]. But in the absence of public interventions by policymakers, providers actually appear to be conducting de facto terminations of their wireline services on a regular basis across the country.

Indeed, in 2014, a dozen consumer rights organizations (some of them governmental) filed a complaint with the FCC alleging repeated and intentional inaction by AT&T and Verizon in repairing their deficient wireline infrastructures in several states, including California and Illinois[373]. The providers were also accused of pressuring consumers to migrate to IP or wireless services, of transferring some consumers without their consent, and of making misleading representations about the status of available services and the failure to correct problems experienced by their wireline subscribers[374].

A second strategy of providers was denounced, this time by the Public Utility Commission of California, in 2019. This is the phenomenon of "harvesting" subscribers from their wireline telephone service. The strategy consists of indirectly forcing them to change service by substantially raising the prices of the service initially retained. In California, for example, AT&T raised the price of its wireline services by 153% in just over a decade, resulting in a significant decline in wireline subscriptions (over 70%)[375]. The provider also, presumably for the same reasons, ended in 2018 the discount it offered to low-income households subscribing to its wireline service (a discount that was up to $15/month)[376].

> *Persistent disinvestment, extensive affiliate transactions at self-serving transfer prices, extraordinarily large rate increases, and deteriorating service quality all point to "harvesting" as AT&T California's overarching strategy for its legacy services and customers*[377].

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[370] LEVENTOFF, J. *As AT&T Retires Copper, the Biden FCC Must Bring Back Ground Rules*, Public Knowledge, May 26, 2021, online: https://publicknowledge.org/as-att-retires-copper-the-biden-fcc-must-bring-back-ground-rules/
[371] SVENSSON, p. Telephone companies to abandon land lines, *op. cit.,* note 368.
[372] BRODKIN, J. *Verizon would end 'century of regulation' by killing wireline phone, says NY AG*, ASR Technica, July 5, 2012, online: https://arstechnica.com/information-technology/2013/07/verizon-would-end-century-of-regulation-by-killing-wireline-phone-says-ny-ag/; MORITZ, S. and KLOPOTT, F. *Verizon ends Fire Island landline standoff*, San Antonio Express News, September 17, 2013, online: https://www.expressnews.com/news/local/article/Verizon-ends-Fire-Island-landline-standoff-4821664.php
[373] BRODKIN, J. Verizon, *AT&T leaving landline phone networks to rot, complaint says*, ARS Technica, May 13, 2014, online: https://arstechnica.com/tech-policy/2014/05/verizon-att-forcing-customers-off-landline-phones-complaint-says/
[374] BRODKIN, J. *Verizon accused of refusing to fix broken landline phone service*, ARS Technica, March 23, 2014, online: https://arstechnica.com/information-technology/2014/03/verizon-accused-of-refusing-to-fix-broken-landline-phone-service/
[375] CALIFORNIA PUBLIC UTILITY COMMISSION (CPUC) and ECONOMICS AND TECHNOLOGY INC. Examination Of The Local Telecommunications Networks And Related Policies And Practices Of AT&T California And Frontier California, April 2018, p. 12, online: https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpucwebsite/content/utilitiesindustries/communications/licensing_compliance/network-exam-ch-1-exec-sum.pdf
[376] MCDANIEL, B. (CITIZENS UTILITY BOARD). *Why is AT&T ending discounts for low-income customers with landline phones?*, Chicago Sun-Times, November 18, 2018, online: https://chicago.suntimes.com/2018/11/18/18462464/why-is-at-amp-t-ending-discounts-for-low-income-customers-with-landline-phones
[377] CPUC et al. Examination of the Local Telecommunications Networks, *op. cit.,* note 375, p. 19.

The complex regulatory environment surrounding the controversial actions of AT&T and Verizon may explain some of this desire on the part of providers to try to circumvent the rules, but it also complicates the situation further. Because under Title 47 of the U.S. Code, providers cannot formally terminate service without prior FCC approval.

> *§ 214 (a) No carrier shall discontinue, reduce, or impair service to a community, or part of a community, unless and until there shall first have been obtained from the Commission a certificate that neither the present nor future public convenience and necessity will be adversely affected thereby*[378].

In addition, the same section requires that a provider's application for such a certificate must also be forwarded to the governors of the states in which the change or termination of service is likely to have an impact[379]. In the case of AT&T, no fewer than 21 states were involved and intervened on the issue, in parallel with the FCC's efforts[380]. Moreover, in the majority of American states, wireline telephone service providers have the equivalent of a universal service obligation under local rules (access at a reasonable rate to anyone who requests it)[381]. As a result, providers are often required to obtain FCC and state authorization before terminating service in the various areas in which they operate.

The following pages provide an overview of AT&T's efforts and the FCC's multiple (and sometimes contradictory) responses. Note that Verizon has not yet applied to the FCC for a certificate. Both providers have also made applications to the relevant authorities in several U.S. states. Without addressing each of these, we will also briefly address the situation at the state level.

7.3.2 The FCC's Decisions

As far back as 2009, AT&T challenged the FCC to change the rules surrounding the eventual termination of its wireline service. In a proceeding on broadband deployment in the country, the provider claimed that its obligation to maintain its wireline network was depriving it of funds that would be useful for improving its Internet network.

> *The legacy PSTN network – which is rapidly hemorrhaging customers and revenue – is now diverting much needed funds from investments in broadband networks. […] a huge proportion of the capital resources available to some of the largest telecommunications providers in the country is being directed, not toward improving broadband speeds or bringing broadband to more customers, but rather toward maintaining an increasingly obsolete network that is no longer capable of providing the services and features that American consumers and policymakers demand*[382].

The provider also asked the FCC to set a firm deadline for the elimination of wireline telephony, so that all providers and relevant regulatory authorities are mobilized and organized to do so quickly[383].

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[378] 47 U.S. Code § 214(a).
[379] 47 U.S. Code § 214(b).
[380] CHANNICK, R. *Illinois OKs end of landlines, but FCC approval required*, Chicago Tribune, July 6, 2017, online: https://www.chicagotribune.com/business/ct-att-landline-end-illinois-0706-biz-20170705-story.html
[381] SVENSSON, p. Telephone companies to abandon land lines, *op. cit.*, note 368.
[382] AT&T. Comments of AT&T Inc. on The Transition From The Legacy Circuit-Switched Network To Broadband, GN Docket No. 09-47, December 21, 2009, p. 11, online: https://ecfsapi.fcc.gov/file/7020354032.pdf
[383] *Ibid.*, p. 14.

Three years later, the provider is back at it again. It filed an application with the FCC to be relieved of its wireline network maintenance obligations, just as it announced with great fanfare the launch of its Velocity IP project, a plan to invest in its wireless and Internet access networks[384]. Among its new demands was a complete rewrite of the relevant sections of the U.S. Code.

In response to the provider's requests, the FCC established a working group, the Technology Transitions Policy Task Force, to address various issues affecting the transition to IP telephony, including network security and interconnection and consumer protection[385]. For example, in 2013, the task force looked at the various pilot projects that could be carried out by providers in relation to the migration of their subscribers from wireline services to other services[386]. Then decisions by the regulatory authority came to clarify the situation in the following years... before being reversed!

The restrictive approach: the 2015 and 2016 decisions

Considering the changes already undertaken by providers and all those yet to come, the FCC decided to update its regulatory framework related to wireline termination. In two rulings, one in 2015 and the other in 2016, the FCC clarified some existing rules, for example by developing more-precise criteria and tests, and announced a key consumer protection measure, the prior notice requirement. Note that the U.S. authority's explanations are generally quite technical and do not make it easy to identify and understand the concerns behind each element of these decisions.

In its 2015 decision, the FCC first reiterated that a provider cannot proceed with the reduction or deterioration of its telephone service without FCC approval (under the public interest and necessity tests[387]). It is up to providers to assess whether their technology transition affects any of these considerations, but this assessment can be corrected by the FCC, if necessary, since providers must always send notice to the authority before such a transition. In determining whether to approve the reduction or termination of wireline service, the authority developed an initial test in 2015, the "functional test," designed to verify that the replacement service operates in a manner similar enough to the old service that consumers are not harmed by the change. The following are considered[388]:

- The new network's capacity, reliability, security and coverage
- The quality and functionality of the services offered as a replacement
- The interoperability of devices and services with the alternative network
- The compatibility of assistive technologies for people with disabilities

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384 ZIEGLER, C. Is AT&T's plan to end landline phone service crazy, or just crazy enough? *op. cit.,* note 369.
385 BUCKLEY, S. *FCC unveils technology transition task force*, Fierce Telecom, December 11, 2012, online: https://www.fiercetelecom.com/telecom/fcc-unveils-technology-transition-task-force
386 FCC – TECHNOLOGY TRANSITIONS POLICY TASK FORCE. *Technology Transitions Policy Task Force Seeks Comment On Potential Trials*, May 10, 2013, Docket No. 13-5, online: https://www.fcc.gov/document/technology-transitions-policy-task-force-seeks-comment-trials
387 GETACHEW, Y. *The FCC's Plan to Gut Tech Transitions Rules Is Bad for Consumers, Small Businesses and Competition*, Public Knowledge, September 6, 2017, online: https://publicknowledge.org/the-fccs-plan-to-gut-tech-transitions-rules-is-bad-for-consumers-small-businesses-and-competition/
388 FCC. *Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking*, GN Docket No. 13-5, Aug. 7, 2015, par. 208, online: https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-97A1.pdf

- Access to emergency services (911) (but not in the specific context of power outages[389])

Then in 2016, the FCC developed the "adequate replacement test" that focuses primarily on the replacement network's performance[390].

These tests should be read in light of an important clarification that the U.S. authority made in 2015, when it formally recognized the practice of de facto service termination and characterized it as a "network retirement" under the U.S. Code. This implied that prior approval for providers wishing to do so is required and that penalties can be imposed for failure to do so. The authority made no secret of wanting to curb the practice, and not really associate administrative obligations with it.

> *We find that the practice of deliberately allowing copper networks to deteriorate is harmful to competition, negatively impacting end users, and that de facto retirements should be covered in the copper retirement requirements. We therefore add to our definition of retirement any "failure to maintain copper loops, subloops, or the feeder portion of such loops or subloops that is the functional equivalent of removal or disabling."* [391]

As was the case in the other countries surveyed, the U.S. regulator is also interested in the advance notice provided by providers that will be discontinuing service on their wireline network. In order to ensure that resellers that use current networks to offer their service are not unduly harmed, the FCC requires that resellers provide at least 180 days' notice and announce any resulting changes to prices or other terms of wholesale access[392]. It also adds a duty of good faith in supporting these providers and other entities that use the wireline network[393]. For consumers, it considers a notice period of at least 90 days to be appropriate and adds the obligation to include certain mandatory disclosures regarding the impact of the wireline network shutdown on their telephone use[394]. It also requires providers to develop educational materials in parallel, set up a hotline to answer consumers' questions, and communicate with consumers in a language other than English if necessary[395]. The FCC estimates that these information and education requirements will serve all consumers, not just those most resistant to technological change.

> *We disagree with commenters who assert that our proposed notice requirement would impose an unnecessary burden because most customers are ultimately happy with an upgrade from copper to fiber facilities. This line of argument reflects a fundamental misunderstanding of the purpose of the notice requirement, which in no way reflects a view that fiber services are inferior to copper [...] even the many customers who are ultimately happy with a copper-to-fiber transition are likely to benefit from understanding the change that will be occurring. Moreover, there remains a segment of the population, however comparatively small, that is resistant to changes in technology or for whom the new technology proves to be inferior to the*

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[389] In a 2016 decision, the FCC discusses the need to provide an alternative to accessing emergency services via IP telephony in the event of a power outage: FCC. *Declaratory Ruling, Second Report and Order, and Order on Reconsideration*, GN Docket No. 13-5, July 14, 2016, par. 130, online: https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-90A1.pdf
[390] *Ibid.*, par. 89.
[391] FCC. Report and Order, Order on Reconsideration, August 2015, *op. cit.,* note 388, par. 90.
[392] *Ibid.*, par. 16.
[393] *Ibid.*, par. 32.
[394] *Ibid.*, pars. 39 and 62.
[395] FCC. Declaratory Ruling, Second Report and Order, and Order on Reconsideration, July 14, 2016, *op. cit.,* note 389, par. 181.

> *old, and that will benefit from information that might ease the transition for them or that will allow them to seek out service from another provider*[396]

But in January 2017, the term of Tom Wheeler, then head of the FCC, ended and the appointment of his successor significantly disrupted the recently established framework.

The permissive approach: the 2017 and 2018 decisions

Ajit Pai, a staunch free-market advocate, was nominated to chair the FCC by U.S. President Donald Trump in early 2017[397]. Shortly thereafter, in April 2017, the regulator began a consultation to rethink the rules for terminating or reducing wireline service. It issued a decision in November of the same year that significantly reduced the obligations of providers that wished to cease operating their wireline network. The FCC's rationale: The rules adopted in 2015 substantially reduced providers' ability to deploy their fibre network[398]. This new FCC ruling was certainly less substantive than the previous one. And while the first decision relied heavily on representations from states and consumer advocacy organizations, the second decision cited almost exclusively the positions of service providers. The FCC's 2018 decision further reduced providers' obligations. Then, like a sledgehammer, it announced in 2019 that consumers' transition from wireline to other services must be completed by August 2022. Let's take a closer look at this frenetic progression.

In its 2017 decision, the FCC abandoned two central elements of the 2015 decision. First, it dropped the latter's recognition of the concept of "de facto" service retirement that occurs when providers fail to adequately maintain their networks. The FCC's justification seems a bit weak; it seems to ignore the fact that this practice by providers has been amply demonstrated. Thus, the FCC (of 2017) argued that the requirement to obtain FCC authorization to allow one's infrastructure to deteriorate is inconsistent, since providers cannot know in advance how much deterioration will occur. Therefore, by the time they obtain such authorization, it would already be too late[399]. The regulator thus abandoned the application of this concept, which was intended to provide an incentive for providers to maintain certain investments in the wireline network, or risk being punished.

The FCC also attacked the "functional test" developed in 2015 to evaluate providers' plans to discontinue wireline service. The FCC now considered this test too broad and objected to the analysis of several factors, such as voice quality, access to emergency services, and compatibility with third-party services and equipment (which rely on wireline network access to operate)[400]. While ARCEP and OFCOM placed great importance on this last element in their respective approaches and interventions, the FCC dismissed it out of hand: "Carriers cannot know all of the myriad ways in which their services

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[396] FCC. Report and Order, Order on Reconsideration, August 2015, *op. cit.,* note 388, par. 43.
[397] COLDEWEY, *D. Trump's FCC Chairman pick Ajit Pai heralds a weaker, meeker Commission*, Techcrunch, Jan. 23, 2017, online: https://techcrunch.com/2017/01/23/trumps-fcc-chairman-pick-ajit-pai-heralds-a-weaker-meeker-commission/
[398] FCC. *Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking*, WC Docket No. 17-84, Nov. 16, 2017, par. 31, online: https://docs.fcc.gov/public/attachments/FCC-17-154A1.pdf
[399] *Ibid.*, par. 37.
[400] GETACHEW, Y. The FCC's Plan to Gut Tech Transitions Rules Is Bad for Consumers, Small Businesses and Competition, *op. cit.,* note 387.

are used by customers, [...] Carriers have no means of knowing what devices their customers are using, and therefore cannot be expected to account for their proper functioning[401]."

The 2017 FCC was hardly more lenient with the various information and public education obligations imposed on providers. It reduced the notice period to 90 days for all entities, including reseller providers and non-residential consumers, such as government organizations[402]. It waived public education and outreach obligations for them since, in the 2017 FCC's view, it is already in providers' interest to adequately inform their consumers in order to keep them as customers[403].

In the end, very little of the rules put in place two years earlier remained.

The expeditious approach: the 2019 decision

In August 2019, the FCC announced that wholesale access obligations to wireline networks of providers that own said networks would cease within three years, by August 2, 2022[404]. Those providers would therefore technically be able to continue to offer wireline service, but not the providers that previously depended on the owners' infrastructure, unless the two entities reached an agreement, without pressure or threat of intervention from the regulator this time. Note that the major providers are the very ones that have been making moves since 2009 to terminate their respective networks and services, which makes the following comment from the FCC somewhat illusory:

> *TDM voice service from incumbent LECs and competitive LECs (through commercial wholesale agreements [...]) will remain for customers desiring such service so long as copper networks or TDM services exist at those customer locations*[405].

Instead, in justifying its decision, the FCC says it fits neatly into a long history of actions the organization has taken since 2012 to promote access to IP telephony by removing "artificial" regulatory barriers to the transition to this next-generation service[406]:

> *[...] regulations that subsidize end-user customers to remain on legacy services and technologies run counter to the Commission's goal of facilitating technology transitions to the long-term benefit of all consumers*[407].

And the U.S. regulator showed little sensitivity to arguments about consumer preferences for wireline telephony. It argued that it is not within its mandate to protect individual preferences and questioned the legitimacy of some of the resistance to the technology transition[408]. Without naming the customers implied, we think those remarks are aimed primarily at business customers that are more dependent on the wireline network for some of their connected services and goods. It is striking that these customers and their particular needs are barely mentioned in the decision. This attitude of the U.S.

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401 FCC. *Report And Order, Declaratory Ruling*, November 16, 2017, *op. cit.*, note 398, par. 148.
402 *Ibid.*, pars. 47 and 61.
403 FCC. *Second Report and Order*, June 7, 2018, FCC 18-74, WC Docket No. 17-84, pars. 22 and fol. online: https://docs.fcc.gov/public/attachments/FCC-18-74A1.pdf
404 FCC. *Memorandum Opinion and Order*, Aug. 2, 2019, FCC 19-71A1, WC Docket No. 18-141, par. 23, online: https://docs.fcc.gov/public/attachments/FCC-19-72A1.docx
405 *Ibid.*, par. 31.
406 *Ibid.*, par. 21.
407 *Ibid.*, par. 28.
408 *Ibid.*, par. 31.

regulator was certainly different from that of the other regulators whose approaches we have studied above.

A new chairperson was appointed to head the FCC in 2021, this time by President Joe Biden[409]. It remains to be seen whether the rules will be changed again. This is exactly what some consumer advocacy groups are hoping for[410]... but time is running out.

The 2014 pilot project

In 2014, the FCC, then under Tom Wheeler, allowed providers to conduct pilot projects in connection with the transition of phone technologies[411]. The purpose of this was primarily to better understand consumer response to the changes and to test how well systems work in emergency situations. The FCC required providers to select test areas with different topological characteristics as well as seasonal and weather conditions[412].

Following FCC approval, AT&T began pilot projects in two communities, in Florida and Alabama. Within two years, just over half of their wireline subscribers voluntarily switched to IP (60%) or wireless service from the same provider[413]. AT&T's documents provided to the FCC are much less detailed than those of BT or Virgin Media in the UK, for example. AT&T points out that customer service calls and complaints to AT&T did not increase as a result of its change in service[414]. However, AT&T does not detail how consumers were informed of the changes to their phone service and induced to join the pilot project, either voluntarily or compulsorily. The provider only states that it contacted various government and community organizations involved in the targeted communities[415]. A Washington Post article offers more details about AT&T's four-step process[416]:

- Extensive advertising campaign about the pilot project
- Automatic registration of new residential telephony customers to the IP service
- Voluntary transfer of customers to the IP service
- Mandatory transfer of customers to the IP service

The U.S. newspaper further notes that AT&T's coverage in Alabama's select community is not entire; 4% of the provider's wireline subscribers will not have access to its IP service. When it launched the project in late 2014, the provider did not have a clear plan for those subscribers[417].

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409 SPANGLER, *T. Biden Names Jessica Rosenworcel Permanent FCC Chair, First Woman to Hold Role*, Variety, October 26, 2021, online: https://variety.com/2021/digital/news/jessica-rosenworcel-permanent-fcc-chair-biden-1235097734/
410 LEVENTOFF, J. As AT&T Retires Copper, the Biden FCC Must Bring Back Ground Rules, *op. cit.,* note 370.
411 FCC. Order, *Report and Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative*, FCC 14-5, GN Docket No. 13-5, January 30, 2014, online: https://docs.fcc.gov/public/attachments/FCC-14-5A1.pdf
412 SELYUKH, A. *U.S. seeks trials to test transition to digital phone networks*, Yahoo Finance, January 30, 2014, online: https://finance.yahoo.com/news/u-seeks-trials-test-transition-171000209.html
413 AT&T. *Final Wire Center Trial report*, FCC-GN Docket No. 12-353, Jan. 19, 2017, pp.7 and 13, online: https://ecfsapi.fcc.gov/file/1011951252479/Final%20Wire%20Center%20Trial%20Report_Redacted_(AS%20FILED%20011917).pdf
414 *Ibid.*, p. 18.
415 *Ibid.*, pp. 9 and fol.
416 FUNG, B. AT&T is testing its next-gen phone network on rural areas and retirees, Washington Post, February 28, 2014, online: https://www.washingtonpost.com/news/the-switch/wp/2014/02/28/att-is-testing-its-next-gen-phone-network-on-rural-areas-and-older-people/
417 *Ibid*.

What about the states?

Unlike ARCEP, Ofcom and the Canada's CRTC, which have full jurisdiction over telecommunications in their respective countries, the U.S. federal agency must instead share it with the U.S. states, which intervene through various state commissions (Commerce Commission, Public Utilities Commission, Public Service Commission, etc.).

While Verizon has not applied to the FCC to date, it has applied in six states that require pre-commencement approval for wireline service termination[418]. The same is true for AT&T, which has made applications in all 21 of the 22 states where it has wireline infrastructure. To date, 20 states have granted approval, with California standing alone[419]. These approvals sometimes come with conditions that providers must meet and that vary from state to state. In Illinois, for example, AT&T must notify its subscribers before applying to the FCC for termination of service. And they can challenge the termination of service to their homes before the state Commerce Commission[420]. In Wisconsin, the authorization (part of a broader deregulation of telecommunications) obtained in 2011 does not include any specific measures for consumers, but does provide for a minimum 24-month period for service termination in the territory[421].

The rules surrounding the termination of wireline telephony in the states thus vary considerably depending on the provider and the state involved, and even on the broader political context. To date, neither AT&T nor Verizon has completed the shutdown of service across their respective networks. And unlike the French and British providers' plans discussed above, we were unable to find any documents from AT&T and Verizon that offered more information or a detailed timetable for the actions that remain to be taken.

7.3.3 The Treatment of Consumers

Given the unstructured and evolving nature of the providers' wireline network changes and of the FCC's guidance, we are unable to provide a detailed picture of how U.S. consumers will be treated in the U.S. wireline withdrawal. The following is a more general summary of the approach taken by the regulator and providers on certain issues affecting consumers:

Alternative service pricing: In its decisions, the FCC does not address the impact of technology transition on the price of telephone services offered to consumers. Unlike providers in the other countries studied, AT&T and Verizon have not committed to offering alternative services at the same price as their wireline service following a switch.

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[418] SVENSSON, p. *Telephone companies to abandon land* lines, *op. cit.,* note 368; CCG CONSULTING. Verizon to Retire Copper, POTs and PANs blog, Apr. 8, 2019, online: https://potsandpansbyccg.com/2019/04/08/verizon-to-retire-copper/
[419] CHANNICK, R. Illinois OKs end of landlines, but FCC approval required, *op. cit.,* note 380.
[420] *Ibid*.
[421] STEIN, J. *Walker signs landline phone bill*, Milwaukee Journal Sentinel, May 24, 2011, online: https://archive.jsonline.com/news/statepolitics/122501394.html/

Telephone affordability for low-income households: In the United States, discussions about the affordability of communication services seem to be quietly shifting away from consideration of landline residential telephone service to wireless services and Internet access. Since 1985, the FCC's "Lifeline Program" has allowed low-income households to receive a discount on their subscription to certain services. In 2016, the FCC announced a plan to phase out home phone service from this subsidy program, but ultimately reversed course in 2021, fearing that shifting subscribers who rely on the program to another phone service would cause them to incur higher costs, especially as the particular context of the global Covid pandemic disproportionately affects the least affluent Americans[422].

Vulnerable consumers: There are no specific rules regarding the treatment of technology-averse or otherwise vulnerable consumers in the technology transition.

Security of services in the event of a power failure: The FCC does not require providers to offer a means of accessing emergency services in the event of a power failure that affects the operation of IP services.

Information: Notice to consumers 90 days prior to termination of wireline service is currently required by the FCC. This may be longer in some states. The notice's content is not regulated. Providers' public information and education obligations have been greatly reduced since 2018, because according to the FCC, "service providers have strong marketplace incentives to communicate with, and educate, customers about replacement services related to their technology transitions[423]." We note that AT&T and Verizon don't give details about what information is provided to consumers during a voluntary or mandatory transfer from wireline to another service, or about what other ways customers are contacted.

7.4 Distinct Approaches, but Some Common Principles

The three case studies above, as well as two studies conducted by German (WIK) and English (PLUM) consulting firms[424], highlight certain commonalities between the various technological transitions currently taking place in the fixed telephony sector, and identify various regulatory approaches to be preferred.

In general, this transition appears to be slow. There are long delays – typically more than a decade – between the first announcements by the regulator or providers and the actual termination of wireline service and the associated network. None of the countries surveyed in the two European studies cited above had set deadlines for consumer migration from wireline networks[425], although some providers with large market shares may have set a deadline regarding their own infrastructure.

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[422] FCC. Order, DA 21-1388, WC Docket No. 11-42, November 5, 2021, pars. 8 and 9, online: https://docs.fcc.gov/public/attachments/DA-21-1389A1.docx
[423] FCC. *Second Report And Order*, WC Docket No. 17-84, June 7, 2018, *op. cit.,* note 403, par. 23.
[424] GODLOVITCH, I. and KROON, P. *Copper switch-off European experience and practical considerations*, paper prepared by WIK Consult for the FTTH Council Europe, November 30, 2020, online: https://www.wik.org/fileadmin/Studien/2020/Copper_switch-off_whitepaper.pdf; PLUM. *Preparing the UK for an All-IP future*, *op. cit.,* note 281, p. 10.
[425] GODLOVITCH, I. and KROON, P. Copper switch-off European experience *op. cit.,* note 424, p. 23.

The role of local regulatory authorities varies; Some closely supervise providers, while others play a more oversight and coordination role. Of course, the U.S. stands out for the instability of its regulatory framework! The contribution of the various regulatory authorities is particularly noticeable regarding[426]:

- Transparency of the providers that own the infrastructures involved, and dissemination of their respective plans (e.g. France, United Kingdom, Estonia);
- Streamlining communication between providers and other stakeholders (government entities, third-party companies, consumer advocacy groups) through working groups, workshops, etc. (e.g., UK, Germany, France);
- Establishing test sites for technological change (e.g., United Kingdom, Germany, New Zealand).

With respect to consumers directly, regulators play an important role in maintaining, interpreting and/or adapting universal service obligations to the new environment[427]. They also intervene systematically with respect to providers' communications with consumers, by requiring notices to be sent, certain information to be provided, and communication structures to be put in place. Notice requirements vary widely, from three months in the United States and four months in Germany[428], for example, to five years in France. Communication with consumers is also generally the central issue in provider pilot projects, another common element across the countries studied. Unfortunately, the low level of consumer participation in these projects also varies from country to country. One has to wonder about consumers' reluctance, especially since regulators generally want to avoid involuntary transitions. Is it the potential replacement of some older personal equipment that puts them off? Is it the presence of technicians in the home? Is it the more complex management of services to second homes? All these elements are raised in the German study[429].

Finally, in the majority of the countries studied, providers have committed to maintaining equivalent prices for services offered as an alternative to wireline service or have been forced to do so[430]. These measures are often maintained for a limited period and don't cover all the expenses involved (e.g. purchase of a modem for IP telephony). And a few countries stand out for having specific measures in place to treat vulnerable consumers when a wireline service is discontinued (e.g., United Kingdom, New Zealand[431]).

[426] PLUM. Preparing the UK for an All-IP future, *op. cit.,* note 281, p. 19.
[427] *Ibid.*, p. 19.
[428] *Ibid.*, p. 13
[429] GODLOVITCH, I. and KROON, P. Copper switch-off European experience *op. cit.,* note 424, pp. 37-38.
[430] PLUM. Preparing the UK for an All-IP future, *op. cit.,* note 281, p. 13.
[431] *Ibid.*, p. 12.

STAKEHOLDER PERSPECTIVES
chapter 8

In late September 2022, we sent an invitation to several stakeholders, both community and industry representatives, to participate in our survey. A short questionnaire was sent to them, along with brief background information that reflected the highlights of our research[432].

Of the community organizations contacted, Open Media, Option consommateurs and ACORN declined. PIAC, CCC and FADOQ sent us their responses, some apologizing for their brevity due to limited resources.

Among industry members, we contacted Bell, Rogers, Quebecor, TekSavvy and Distributel, who ignored our request. Telus answered all of our questions.

Our questionnaire was divided into two themes. The first concerned the CRTC's regulation or oversight of providers' approaches, and the second concerned the adequacy of providers' approaches to consumers' needs.

8.1 The CRTC's Regulation or Oversight of Providers' Approaches

Participants were asked for their views on the sufficiency of the CRTC's actions with respect to the wireline phase-out in light of actions taken by some foreign regulatory authorities, with regard to:

- Transparency of the infrastructures' owner providers;
- Providers' communications to their subscribers;
- Information exchange between providers and other stakeholders
- Maintenance or adaptation of universal service obligations

Community-based consumer advocacy groups are clear that the CRTC has a responsibility to ensure that providers offer a meaningful, similar-cost alternative to wireline service. The groups point to the particular vulnerabilities of some consumers (because of income or location, for example, both of which affect the choices available to them) and the CRTC's importance in ensuring that providers do not take advantage of a change in technology to sell them unnecessarily expensive services or packages. "Consumers should not be forced to give up home phone service if there are no affordable alternatives."

Can market forces alone ensure adequate consumer protections and treatment in such a transition?

The groups have serious doubts that this is the case. If the past is any indication, the CRTC will likely have to continue to intervene, as it has done, for example, to impose lower-cost services. As a result of

[432] A copy of the questionnaire is attached in appendix.

recent closures and consolidations, the groups also note that competition among IP providers is declining and that the price of wireline Internet is steadily increasing. The current environment favours neither consumers nor competition. Therefore, market forces cannot be relied upon to reassure consumers in this transition.

In the example of foreign measures, consumer groups would require all the universal service obligations that in Canada must be maintained or be adapted to the context of wireline telephone disappearance. Beyond this obligation, the groups would advocate the adoption of all the foreign measures mentioned herein.

The provider disagrees. In its view, the CRTC's regulations and industry practices already cover most of the concerns raised in the preamble to our question. Rates have been deregulated almost everywhere because the CRTC has determined that there is sufficient competition to ensure consumer protection. In addition, the removal of copper wire technology is already being effectively accompanied by the installation of fibre or other technologies. It should be realized that fibre is much more efficient than copper wire and that Canadians are demanding more bandwidth for their Internet services.

Since providers are in constant competition, it is in their best interest to always give the consumer more to maintain an advantage over their rivals. “Market forces not only protect consumers, but actively promote consumer welfare.”

In response to the question about examples of regulatory intervention in other countries, the provider reiterates that CRTC intervention is not necessary or desirable on either of these issues. The regulator's interventions must remain technologically neutral, and current regulations already cover these different aspects.

The issue of transparency is not a problem: Providers are always happy to announce fibre installation since it is likely to win them new or loyal customers. As for notices, the provider already gives several to its customers, who will often have to do (or allow to be done) certain things that will enable them to keep their connection.

With respect to the obligation to serve, the provider reminds us that the CRTC regulations don’t apply only to copper wires and that telephone service can be offered in other ways, including wireless.

8.2 Consumer Needs and Concerns

Since consumers are not very aware of the probable end of wireline telephone services in the more or less long term (many are not even aware of the type of residential telephone service to which they themselves are currently subscribing), communication with consumers is often considered to be a central issue.

It’s often to save money that consumers terminate their subscription to a residential telephone service or, conversely, that they maintain only this type of service. The affordability of telephone services is undeniably an important issue, both for Canadian consumers and for the CRTC, which, under the Canadian Telecommunications Policy, must ensure that telecommunications services meet the economic and social needs of consumers.

For consumers switching from wireline to IP telephony, several providers abroad announced that they would maintain (for up to five years) equivalent rates for replacement services; others provided free network connection equipment for users who did not subscribe to an Internet access service.

This solution certainly avoids a rate shock for this clientele, but it does not take into account the transfer to other telephone services, such as wireless, which is a very popular option for Canadian consumers who have voluntarily ended their subscription to wireline telephony in recent years.

8.2.1 Irritants and Major Consumer Concerns That Providers Need to Address in Their Communication Efforts Related to an Eventual Technology Transition

According to community groups, the affordability of alternative services must remain a priority, as must their reliability. Users of wireline telephony often have the impression that this service is more reliable and of better quality than IP telephony and even wireless.

Consumers should also have a choice of alternative services. Some are reluctant to be forced into more complex and expensive services.

Stakeholders need to be aware that for many consumers (e.g. seniors), the issue of resistance to technological change is crucial.

For the transition to be successful, consumers will need to be informed well in advance, so that they can prepare for the change, find the resources and services that will work for them, but also voice their concerns. The CRTC can play an important role in identifying the appropriate time periods and levels of information needed.

The provider says it is working hard to educate current and potential customers about the benefits of its fibre-based services and to simplify the process of transitioning from wireline to IP telephony.

The industry and its regulators should work to correct consumer misperceptions about modern telephony, including the reliability of fibre in extreme weather conditions.

8.3 How to Avoid Rate and Technology Shocks

8.3.1 Avoiding Rate Shock

What would be the best ways to ensure, while taking into account subscribers' needs and the variety of alternative options available, that the end of wireline telephony offer does not cause a rate shock for subscribers to that service?

Community groups say the CRTC should cap the rates associated with available alternatives, since the lack of competition in this market will not be sufficient to ensure voluntary measures such as those put in place by some foreign providers (price maintenance, free equipment), which are nevertheless an acceptable minimum.

Some believe that consumers should also be protected from price increases designed to induce them to abandon the services they subscribe to, or even that "Besides specific solutions in the migration

context, the entire regulatory environment must change to better support wireless and wireline competition."

The provider states that its alternative services are often priced the same as or less than copper wire services, and that an accelerated transition benefits all parties.

8.3.2 Ensuring an Adequate Technological Transition from a Consumer Protection Perspective

Community groups insist on transparency and information about the continuation of services, including telephone number portability. The CRTC and the Competition Bureau should support consumers, inform them, and protect them from questionable or abusive provider practices that may arise in the transition process.

The reliability of wireline telephony, particularly the service's accessibility in case of power failure, remains an important asset in emergency situations. In addition, this service is easy to use and its costs are advantageous, the service being, moreover, not expensive, the equipment price being very often already amortized. Consumers must be adequately informed of the loss of these benefits.

One community group mentioned the problem that IP telephony may not be a suitable substitute, especially in high-cost service areas, or available at a suitable cost.

> *Particularly in HCSAs where service reliability is typically lower and prices higher, IP calling is not an appropriate substitute for home phone services. Fibre rollout to HCSA may solve quality issues, but retail prices will likely remain high. The CRTC or the government could also consider developing a retail subsidy for customers in HCSAs.*

The provider reiterates that the changes are for the benefit of consumers and that communication efforts by providers should focus on explaining to consumers the superior capabilities and qualities of the new services.

CONCLUSION

In the current context in Canada, there are clear signs that wireline telephony will eventually end in the country. This despite the fact that it seems impossible to announce a date when the withdrawal of this service will be definitive.

The factors that herald and explain the end of this service and the gradual shift to other voice communication technologies are multiple. All available data indicates that the number of wireline telephone subscriptions is declining and that the trend is here to stay. Until the service's extinction. An extinction that will not fail to happen although a significant number of consumers, if they had the choice, would keep this service, even in addition to one or several other communication services. The fact is that the choice will probably not be given to those consumers.

Indeed, this service is less and less cost-effective for providers. Fewer subscribers generate less revenue, while the expenses involved in providing this service, such as network maintenance, continue to increase despite the decrease in demand. Providers prefer, by far, to invest in fibre optics, which responds to the increasingly pressing needs of consumers.

Providers announce, implicitly or explicitly, the end of this service. Customers who still subscribe to the service are being pushed, discreetly or not, toward the exit – increases in the service's price, tempting offers to change technology – without necessarily being adequately informed of the ins and outs of the changes. Some even report that the change of technology was imposed on them and made without their knowledge when they subscribed to the Internet.

Some providers are clearly announcing that they will end their wireline service. However, those announcements are generally made in a rather low-key and unstructured manner. There does not appear to be a comprehensive picture in this country of the state of wireline networks and their future.

The situation in Canada, in terms of the announced death of wireline as well as the hiccups in the transition's organization, is obviously not unique. Other countries have seen a gradual decline in wireline subscriptions and have seen the first steps by providers to transition to other technologies for their telephony services.

The situation in Canada seems to be an almost identical replay, but a few years behind, that of other Western countries that have recently shut down their wireline infrastructure or are in the process of doing so.

The advantage of this time lag is that it enables Canada to analyze what has been done elsewhere and to draw inspiration from foreign approaches in this area – those of providers and regulators – while adapting them as necessary to the specific Canadian context.

Because this technological transition is not without risk, raises consumer concerns, and can be a source of potential disruption, it should not be done in a haphazard fashion. This is the conclusion that many jurisdictions have reached, and we think Canada should follow their lead.

The risks for consumers of the disappearance of wireline telephony are numerous and have been widely identified and documented. The one mentioned most frequently relates to security. IP telephony, which is the replacement service most often adopted by consumers, does not offer the same guarantees as traditional wireline telephony regarding location options when calling emergency lines (911) and access to service in case of power failure.

The risk of social exclusion is very real for consumers who will lose access to wireline telephony and who will not be able to afford any of the alternative options, for economic, technical or other reasons. And those consumers will also lose access to emergency services altogether.

These issues of accessibility and affordability cannot be ignored or their importance minimized. Telephony is an essential service; these issues must necessarily be addressed and a solution found and applied for all. These concerns are all the more pressing because a significant proportion of wireline subscribers have particular vulnerabilities, so that government has an increased responsibility to protect those subscribers from the effects of possible market failures.

We observe that regulators play a key role in the context of the inevitable transition to new technologies for residential telephony. Regulators ensure coordination, through working groups and committees, supervision and monitoring (pilot projects, meetings, setting up of test sites, etc.) and put pressure on providers to ensure certain consumer protections (free equipment, price maintenance, personalized support for vulnerable consumers, etc.). Rules are being developed regarding the notices that must be sent to consumers so that they can properly evaluate their options, and regarding information on the differences between different services. Measures are taken to ensure that third-party companies that have been using copper wire transmission to provide their services (third-party providers or providers of other services such as alarm systems) will have functional access to alternative transmission modes, etc.

However, the situation is quite different in Canada, where there are very few rules limiting or overseeing the approaches and practices of providers. The CRTC says that the disappearance of traditional wireline service will bring about changes that could have significant consequences for consumers. However, it intervenes only on the few services that are still tarified.

As it stands, the obligation to serve is technology independent, so it also has little impact, especially since the CRTC has recognized wireless service as an adequate substitute for wireline service under this obligation to serve.

The lack of coordination and oversight – of involvement – by the CRTC is surprising; it runs counter to the trend observed abroad… and the anarchy due to the precedence of market rules makes expectations and planning all the more difficult for consumers as well as reseller providers dependent on the infrastructure.

Perhaps the time has come to tighten this framework. Is it realistic to think that the free play of the market will produce the necessary protections and ensure the proper treatment of consumers in the context of the end of a service that many want and need? We think not.

RECOMMENDATIONS

Whereas one of the CRTC's responsibilities is to ensure that all Canadians have access to safe, affordable and quality telecommunications services as part of the orderly development of telecommunications throughout Canada, and to meet the economic and social requirements of users;

Whereas wireline telephony is a service in decline, with an inevitable technological transition to other services already underway or announced;

Whereas the CRTC recognizes the significant negative impact that a technology transition can have on Canadian consumers;

Whereas, in the absence of a framework for deregulated services, there is a certain amount of confusion and opaqueness in the approaches taken by providers in connection with the transition of their wireline customers to other types of services;

Whereas, in the context of the discontinuation of a residential telephone service, market forces cannot ensure that the objectives of the Canadian Telecommunications Policy, which are the CRTC's responsibility, are met;

Whereas, as a result of the change in the guidelines issued to the CRTC by the government, the regulator is no longer required to put free market dictates at the centre of its analyses;

Whereas several countries with markets similar to Canada's have put in place a comprehensive framework to ensure that the technological transition resulting from the withdrawal of wireline telephony from the range of telecommunications services is carried out in an orderly fashion;

Whereas, for the same reason, some foreign regulators have even made sure to develop frameworks or guidelines even before the providers' first steps are effective;

> **Union des consommateurs recommends that the CRTC** proactively regulate the termination practices of wireline telephone services, even when the offer of these services is subject to forbearance from rate regulation.

Whereas it seems impossible, in the current Canadian context, to obtain a clear and complete picture of the state of wireline or the plans of providers for the technology transition;

Whereas a useful analysis of the situation and of the various stakeholders' needs would require more coordination and monitoring;

Whereas in order to make informed decisions regarding telecommunications development, security, affordability, quality, and ability to meet the economic and social requirements of users, the CRTC needs more information from providers;

Whereas the providers' current approaches are very opaque and there appears to be very little information available on the steps that preceded the termination of service and the treatment of consumers during this transition;

Whereas consumers and reseller providers who rely on wireline infrastructure need more certainty about future plans and timelines;

Whereas other jurisdictions have established numerous forums to discuss stakeholder concerns and issues raised by the upcoming changes and to explore options for consensus solutions;

Whereas several devices, some of which are essential to the daily lives of users, may not be compatible with alternative technologies to wireline or may require significant adaptations;

Whereas other jurisdictions have required providers to first conduct pilot projects that have proven useful in identifying consumer problems and possible solutions and in ensuring a smooth transition, and to set up test sites that have been used extensively by third-party producers;

Union des consommateurs recommends that the CRTC adopt a regulatory framework:

1) That builds on the regulatory and legislative frameworks of other Western countries and is adapted to the Canadian context;
2) That enables it to exercise an oversight and coordination role in the providers' efforts to retire their respective wireline networks;
3) That requires providers, or at minimum uses any other means, to:
    a) Develop and disseminate comprehensive transition plans;
    b) Establish forums for discussion and information exchange between the regulator, the providers involved (including resellers), third-party companies whose products depend on wireline networks, and consumer advocacy groups;
    c) Establish pilot projects to better understand the needs and expectations of subscribers whose wireline service will end;
    d) Set up test sites, accessible to representatives of reseller providers and third-party companies whose products depend on the networks involved;
    e) Provide timely notices to consumers who may be affected by a provider's discontinuation of wireline service, and disseminate information tailored to the needs and concerns of consumers, including elderly or otherwise vulnerable consumers.

Whereas consumers are relatively unaware of alternative options, how they work, their limitations and benefits, and their accessibility;

Whereas a considerable proportion of residential telephony subscribers do not wish to terminate their wireline subscription or they declare a reluctance to change their type of telephony;

Whereas a significant proportion of current residential telephony subscribers have not changed providers in a very long time and many are not aware of the possibility of simply transferring their telephone number from one provider to another or from one telephone service to another;

Whereas it is important for the state of competition to promote consumer mobility in the telecommunications services market;

Whereas the concerns of foreign providers regarding communications with consumers have prompted the launch of pilot projects that have confirmed a significant lack of awareness of the process among individuals and businesses, but also among the telephony service providers themselves**;**

Whereas Ofcom's partnerships with providers and the creation of the Communications All IP Working Group in the UK provide relevant examples and models of foreign initiatives to foster better communication between providers and consumers;

Union des consommateurs recommends that the CRTC:

1) Ensure that a committee or working group is established to address the publicizing of future provider approaches and communications with their subscribers;
2) Mandate that committee or working group to develop guiding principles;
3) Ensure a timely and neutral information campaign that addresses the termination of wireline service offerings, and that explains the following:
    a) The various types of alternative telephony services available, and their respective advantages and disadvantages;
    b) The importance of shopping around for one’s telephony provider and package;
    c) The mechanism for transferring telephone numbers;
    d) The (general) compatibility of replacement services with various types of devices.

Whereas consumer autonomy is a fundamental principle of consumer protection;

Whereas consumers have little knowledge of upcoming changes, or sometimes even the status of their own residential phone service;

Whereas in the majority of the foreign countries surveyed, providers have committed or have been compelled to maintain equivalent prices for services offered in lieu of wireline service;

Whereas in the countries studied, there was a significant emphasis on communications with consumers;

Whereas the failure of alternative residential telephone services to function in the event of a power outage is a major concern among consumers, and one of the few distinctions they spontaneously identify between different residential telephone services;

Whereas telephony is an essential service in the daily lives of a great many consumers, and the economic accessibility of the service and of the devices required for its operation must remain a constant concern for all stakeholders;

Union des consommateurs recommends that incumbent infrastructure providers that want to terminate their wireline network:

1) Proceed in a progressive way, first encouraging voluntary transfers toward other technologies in order to avoid forced transfers or disconnections as much as possible;
2) Develop educational materials and use a variety of communication tools with affected subscribers in order to avoid surprises, forced transfers and transfers to inappropriate services;
3) Maintain similar rates for a reasonable period of time when transferring a subscriber from a wireline telephony service to another telephony service;
4) Provide the necessary IP telephony connection devices at no cost;
5) Provide IP subscribers with at least one simple, low-cost, customized solution that maintains continuous access to emergency services for a reasonable period of time in the event of a power outage.

Whereas our study of the contracts reveals several problems in applying the regulatory and legislative frameworks for those contracts, including public policy rules;

Union des consommateurs recommends that the agencies responsible for enforcing the laws that affect consumer protection, contracts and security of communications services strengthen monitoring and interventions to better protect consumers and ensure better compliance by providers, particularly in the area of IP telephony.

Appendix: Stakeholder Consultation Questionnaire

Research project funded by the Office of Consumer Affairs
(Innovation, Science and Economic Development Canada)

The potential death of wireline telephony: What this could mean for Canadian consumers
Summer 2022

QUESTIONNAIRE

Presentation of the organization

Union des consommateurs is a non-profit organization comprised of 14 consumer rights groups. UC's mission is to represent and defend the rights of consumers, with special emphasis on the interests of low-income households.

UC acts mainly at the national level, by representing the interests of consumers before political or regulatory authorities, in public forums or through class actions. Its priority issues, in terms of research, action and advocacy, include the following: household finances and money management, energy, issues related to telephone services, broadcasting, cable television and the Internet, public health, financial products and services, and social and fiscal policies.

Presentation of the project

Union des consommateurs is currently conducting a research project on the future of wireline telephony in Canada.

According to the most recent CRTC data, there are 17.5 million fixed-line subscriptions (residential and business) in the country. However, there are more and more indications that wireline telephony services may be coming to an end in Canada, including:

- The sustained and ongoing decline in demand for this type of service (between 2013 and 2020, the number of home phone subscriptions, for example, declined by nearly 25%);
- Increased costs for providers to maintain the wireline infrastructure and decreased profitability of the service;
- The announcement by some providers (e.g. Telus) of their intention to transfer their customers from the wireline network to IP telephony in the next few years, in parallel with the deployment of their fibre optic network;

- The transition from wireline telephony to IP telephony or other alternative technologies is being undertaken, or even completed, in many Western countries;
- Some devaluation of the service by the CRTC, which is now relying more on other telecommunications services to ensure the inclusion and participation of all Canadians in society and the economy (e.g., the changes to its basic service objective in 2016 and the impact of this decision on the local service subsidy regime).

The research that Union des consommateurs is carrying out aims to draw up a portrait of the concerns and needs of consumers faced with this possible technological transition to other types of telephone services, and also to identify the regulatory measures to be recommended, if any. It is on this second aspect that we wish to have your opinion.

The questions below are accompanied by background information for your reflection.

Issue 1: The CRTC's guidance or supervision of providers' approaches

As part of our research, we studied the steps taken by foreign providers and regulators, notably in France[433], the United Kingdom[434] and the United States[435], with respect to the shutdown or withdrawal of the wireline network. Those jurisdictions are undeniably further along in their technological transition (to IP) than Canada.

The role of foreign regulators varies; some closely monitor providers' actions, while others play a more oversight and coordination role. Our study shows that the contribution of the different regulatory authorities is particularly noticeable in the following areas:

i. Transparency of the providers who own the infrastructures involved and public dissemination of their respective plans (e.g., France, UK, Estonia);
ii. Implementation of providers' communication obligations toward their subscribers (e.g.: sending notices, developing information campaigns, setting up specific communication channels, etc.);
iii. Structuring and simplifying information exchange between providers and other stakeholders (government entities, reseller providers, third-party companies, consumer advocacy groups) through working groups, workshops, etc. (e.g., UK, Germany);
iv. Pilot projects and tests related to technological change (e.g., UK, New Zealand);
v. Maintaining or adapting universal service obligations to the context of technological migration, where appropriate.

The state of the framework here and the CRTC's role are very different from those of the foreign models studied. We note that there are very few rules here regarding the discontinuance of a telephone service

[433] With the gradual cessation of PSTN operations by Orange from 2023.
[434] With BT and Virgin Media phasing out their wireline service offerings as early as 2025 and Openreach phasing out wholesale access over the same period.
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whose rate is no longer regulated, as is now the case for the vast majority of wireline telephone services provided in Canada. Providers don't need to obtain CRTC approval to discontinue service and the CRTC does not impose any other specific obligations on them, for example in the treatment of their subscribers to the affected service. Nor does the CRTC appear to have any oversight or coordinating role among providers (incumbents and resellers) or other stakeholders.

1(a) In your view, should the CRTC further regulate the termination of wireline services by providers even if it does not regulate their rates? Why?

1(b) How and to what extent can market forces ensure adequate consumer protections and treatment in such a transition?

1(c) Of the various elements addressed or adopted by foreign regulators (listed above), which one(s) should also be addressed or adopted in Canada? Why?

1(d) Conversely, which one(s) should not be addressed or adopted in the Canadian context? Why?

Issue 2: Matching providers' approaches to consumers' needs

Consumers have very little knowledge of the current situation and the probable end of wireline telephone services in the near future. The results of a survey conducted by UC in 2022 reveal that many consumers are not aware of the type of home phone service they currently subscribe to.

The situation is reportedly similar abroad. So it's no surprise that consumer communication has been the central issue in several pilot projects by foreign providers in their transition to IP telephony. Unfortunately, the results have been mixed. In the UK, for example, providers have found a significant lack of awareness and understanding of the process among consumers and businesses, and even among other telephony service providers!

2(a) What do you think are the main irritants and concerns of consumers that providers should try to address in their communication efforts related to an eventual technology transition?

The results of our survey indicate that many consumers are ending their subscription to a residential telephone service in order to save money. Others, on the other hand, still in order to save money, settle for a subscription to this type of service rather than another. The affordability of telephone services is undeniably an important issue for Canadian consumers. It is also important for the CRTC, which, under the Canadian Telecommunications Policy, must ensure that telecommunications services meet the economic and social needs of consumers.

Abroad, several providers in the process of transferring their subscribers from wireline to IP telephony announced that they would maintain equivalent rates for the new services for up to 5 years in some cases. They provided free network connection equipment for users who did not subscribe to an Internet access service. This is the case of Orange in France and BT in the UK.

While this solution avoids a price shock during the wireline-IP transition, it does not take into account the transfer of consumers to other telephone services, particularly wireless telephony, which is a very popular option for Canadian consumers who have voluntarily ended their wireline telephony subscription in recent years.

2(b) What do you think would be the best ways to ensure, while taking into account consumers' needs and the variety of alternative options available, that the end of wireline telephony does not cause a price shock for the service's subscribers?

2(c) What other elements do you think would be required to ensure an adequate technological transition from a consumer protection perspective in the event of a wireline discontinuance?

We thank you very much for your collaboration
and we invite you to return the completed questionnaire by ..... to:

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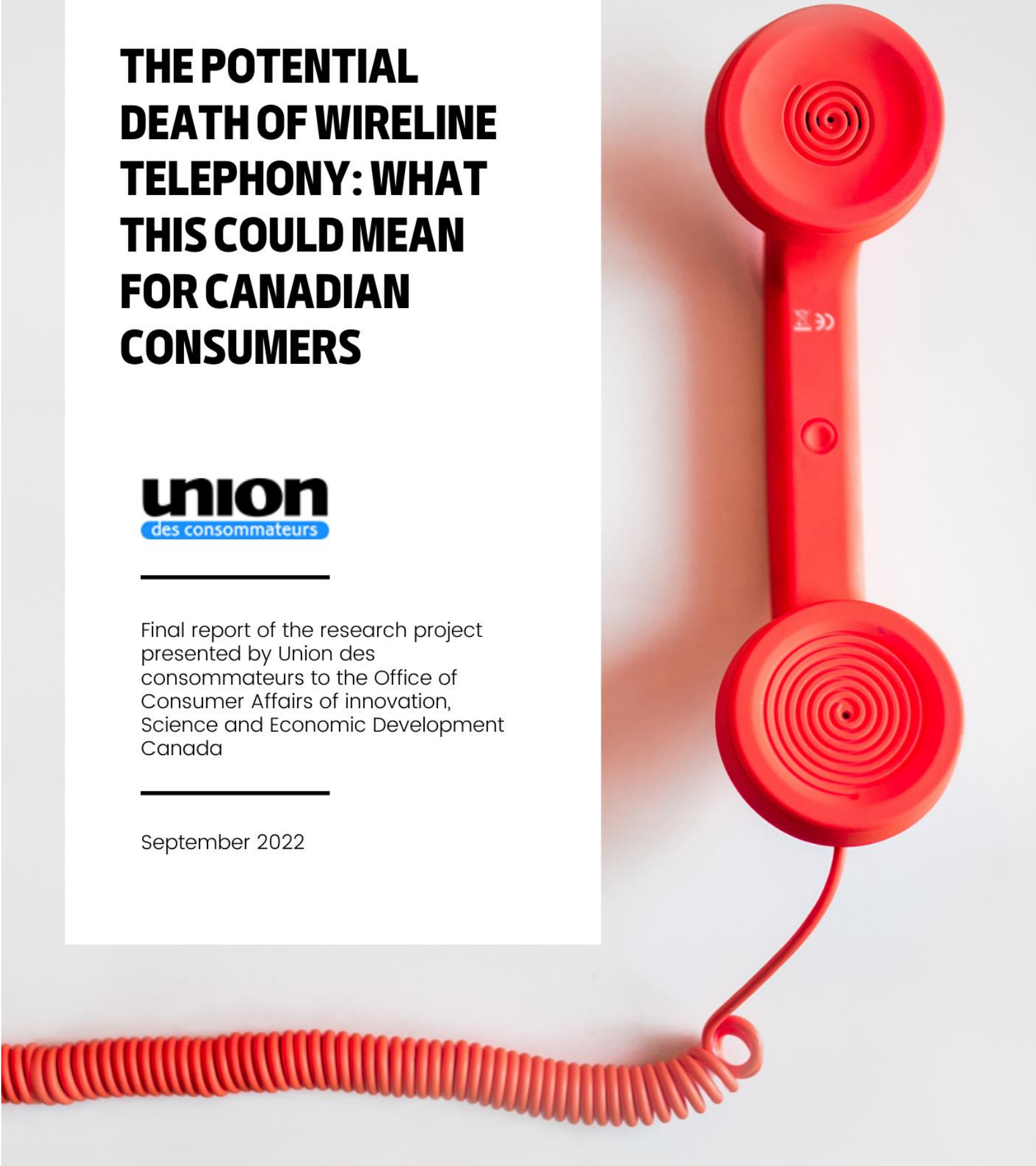
THE POTENTIAL DEATH OF WIRELINE TELEPHONY: WHAT THIS COULD MEAN FOR CANADIAN CONSUMERS

union des consommateurs

Final report of the research project presented by Union des consommateurs to the Office of Consumer Affairs of innovation, Science and Economic Development Canada

September 2022



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(English version)

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