GSMA Contribution

Open Consultation for the Council Working Group on International Internet Related Public Policy Issues

August 2020

Executive summary

Over the past five years, mobile operators invested more than US$ 870 billion in CAPEX, reducing the number of individuals living outside mobile broadband coverage by 60% (900 million people). As a result, 93% of the global population is now covered by infrastructure providing access to the internet, which is 90% in low- and middle-income countries. At the same time, the industry continues to upgrade its infrastructure for improved user experiences. 4G has become the dominant mobile technology, overtaking 3G in 2019 and is expected to account for 60% of all connections by 2023. These improvements in network infrastructure facilitate the rapid growth of global mobile data usage, which is set to increase almost fourfold, from 7.5GB per subscriber per month to 28GB in 2025. Sub Saharan Africa is expected to see the largest growth, from 0.8GB to 6.8GB in 2025, spurred by increased smartphone adoption and availability of affordable services.

These increased levels of connectivity have a positive impact on socio-economic development and individual well-being. Since 2015, mobile connectivity has driven an increase in global GDP of US$ 360 billion (4% of overall growth) and the industry increased global employment by around 5 million. In 2019, the mobile ecosystem supported around 30 million jobs. Accelerated mobile internet use is also helping to advance progress towards achieving the UN Sustainable Development Goals.

In our response, we identify the best way for policy makers to expand the reach of commercially sustainable networks is by creating an enabling environment - including pro-investment and pro-innovation policies and regulations that reduce the costs and uncertainty around spectrum assignment, remove obstacles to network deployment and promote best practices on tax policy. In our response, we focus not only on policy recommendations to expand coverage but also on policy recommendations to stimulate demand, as 3.4 billion people with access to mobile broadband have not adopted the internet yet. Accelerating internet adoption will not only include these individuals in an increasingly digital society, but will also help mobile operators to continue to invest more and better infrastructure, especially in rural areas.

Policy recommendations on expanding coverage:

1. Balanced spectrum policy to advance coverage
2. Avoid license terms and conditions that discourage network expansion
3. Reduce mobile-specific taxes and fees that impede rollouts and harm internet affordability
4. Simplify and streamline local planning and approval processes
5. Infrastructure sharing on a voluntary basis
6. Government intervention should only be considered once all other regulatory measures are exhausted

Policy recommendations on increasing demand:

1. Reduce mobile-specific taxes and fees on devices and services

2. Encourage the development of local ecosystems of digital products, apps and services that meet the needs, preferences and capabilities of unconnected people
3. Invest in digital literacy and skills
4. Support and conduct research on the threats, as well as cultural or social norms, that prevent citizens from accessing and using the internet in different social and cultural contexts
5. Facilitate access to handsets, electricity, agents and formal IDs, in particular, for the poorest and most disadvantaged people, including those with disabilities and women

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The world is more connected than ever before

By the end of 2019, over half of all individuals across the globe were using the internet. Mobile operators are leading efforts to promote ever greater internet access and use, especially in low- and middle-income countries (LMICs) where mobile broadband accounts for 87% of internet connections.

Over the past five years, mobile operators invested more than US$ 870 billion in CAPEX, reducing the number of individuals living outside mobile broadband coverage by 60% (900 million people). As a result, 93% of the global population is now covered by infrastructure providing access to the internet, which is 90% in LMICs[1]. At the same time, the industry continues to upgrade its infrastructure for improved user experiences. 4G has become the dominant mobile technology, overtaking 3G in 2019 and is expected to account for 60% of all connections by 2023. These improvements in network infrastructure facilitate the rapid growth of global mobile data usage, which is set to increase almost fourfold, from 7.5GB per subscriber per month to 28GB in 2025. Sub Saharan Africa is expected to see the largest growth, from 0.8GB to 6.8GB in 2025, spurred by increased smartphone adoption and availability of affordable services[2].

These increased levels of connectivity have a positive impact on socio-economic development and individual well-being. Since 2015, mobile connectivity has driven an increase in global GDP of US$ 360 billion (4% of overall growth) and the industry increased global employment by around 5 million. In 2019, the mobile ecosystem supported around 30 million jobs[3]. Accelerated mobile internet use is also helping to advance progress towards achieving the UN Sustainable Development Goals. For example, 1.4 billion individuals are using mobile technology to access educational information for themselves or their children, while 1.3 billion mobile subscribers use their device to improve or monitor their health[4]. At an individual level, access to mobile devices is valued by men and women as making them feel safer and more autonomous. Individuals also indicate that it provides access to important information that not only assists people in their daily lives, but that would have not been received otherwise[5].

COVID-19 has demonstrated how fundamental telecommunications and digital technologies are to societies and economies everywhere. They have ensured the functioning of emergency services, allowed separated families and friends to maintain contact and a sense of community, and enabled many businesses to continue to be productive, responsive and adapt throughout the crisis. The situation has also unlocked innovation, including new ways to deliver education, healthcare and a range of other services remotely. Mobile operators all over the world have been pro-active by reaching out to their customers and working with governments to provide a range of vital services.

[1] GSMA Intelligence, 2020
[2] GSMA (2020) Mobile Economy Report
[3] Ibid
[4] GSMA (2019) Mobile Industry Impact Report 2019 – Sustainable Development Goals
[5] GSMA (2020) Mobile Gender Gap Report 2020

The industry will continue to collaborate with partners and play a key role in navigating communities through these challenging times.

4 billion people remain excluded from increasingly digital societies

Despite the rapid expansion of mobile broadband coverage and internet use, 4 billion people remain offline. Of these people, 3.4 billion have access to at least 3G but have not adopted the mobile internet yet – the usage gap[6]. Barriers to internet adoption for this group include for example challenges around affordability, a lack of digital skills or perceived relevance of services available, as well as concerns regarding online safety and security. In particular, women are 20% less likely to use mobile internet than men[7]. Although the usage gap is a universal challenge, significant regional disparities exist, with the majority of people living in LMICs, primarily Asia. Hence, just five countries – India, China, Pakistan, Indonesia and Bangladesh – account for over half of the global usage gap.

The remaining 600 million individuals lack access to mobile broadband networks and their associate services altogether. This coverage gap disproportionately affects people living in LMICs, of which the majority are in Sub Saharan Africa. The greatest coverage challenge remains in rural areas, where network CAPEX and OPEX are higher than urban areas and revenues can be as much as ten times lower due to the smaller population. In practice, this means a lack of coverage is often because network investment in these locations would be unprofitable, if not loss-making. Furthermore, investment cycles in new technologies are shortening, putting additional pressure on operators in terms of capital allocation planning. The challenge is therefore not only to bring coverage to rural areas, but doing so in a commercially sustainable manner that ensures these networks are upgraded and maintained.

The mobile industry has been demonstrating its willingness to close the coverage gap by entering into voluntary active and passive infrastructure-sharing agreements on a commercial basis that minimise the duplication of expensive infrastructure, for example, which reduces the risk and increases the returns on investments in areas with low economic potential. Other initiatives include partnerships with technology providers to test innovative technologies that aim to reduce the upfront investments and operating costs of providing services in low- density areas[8].

However, closing the coverage gap cannot be achieved by the industry alone. Technology-specific spectrum licences, rules preventing network sharing and excessively bureaucratic application processes at the local government level present significant regulatory barriers and disincentives to extending networks. Governments should therefore play their part by implementing policies and regulations that eliminate unnecessary costs, enhance flexibility, and increase investor confidence.

Investment-friendly policies are needed to expand internet connectivity for all – especially in rural areas

The best way for policy makers to expand the reach of commercially sustainable networks is by creating an enabling environment, including pro-investment and pro-innovation policies and regulations that reduce the costs and uncertainty around spectrum assignment, remove obstacles to network deployment and promote best practices on tax policy.

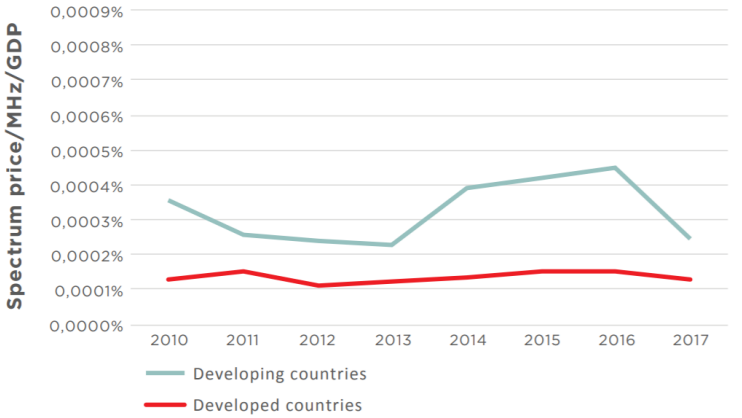
[6] GSMA Intelligence, 2020
[7] GSMA (2020) Mobile Gender Gap Report 2020
[8] See for further examples: GSMA (2019) How Innovation Can Drive Rural Connectivity

1. Balanced spectrum policy to advance coverage

GSMA research shows that final spectrum prices in developing countries are on average more than three times as high as those in developed countries. These high final prices are driven in part by government spectrum policy decisions. These include directly setting high final prices, artificially limiting the amount of licenced spectrum available, lack of a clear spectrum roadmap, and the design of spectrum auctions.

Governments should allocate spectrum with the aim of fulfilling their connectivity objectives and avoid the temptation to inflate prices. High spectrum costs lead to negative consumer outcomes by restricting the financial ability for mobile network operators to invest. Maximising revenues from spectrum should therefore not be a measure of success. Hence, in one study, in countries with the highest spectrum prices, 4G network coverage could have been 7.5% higher if spectrum was acquired at the median spectrum price[9].

Figure 1: Spectrum prices are much higher in developing countries



Regulators should provide mobile operators with timely access to a sufficient amount of spectrum in order to support high speed, mobile broadband services with good coverage. It is vital that sub-1 GHz 'coverage' spectrum bands are assigned for mobile broadband use as this frequency range can cover wide areas with a small number of base stations, making it ideal for affordably covering rural areas. Unfortunately, a number of emerging markets that most need to release spectrum fail to do so, perhaps in the misguided belief that hoarding the spectrum could increase its selling price at subsequent auctions. Artificially limiting the supply of spectrum, including through set-asides, comes with great risks. When additional spectrum is instead made available for the benefit of all, consumers experience higher quality mobile services.

A growing number of governments are using reduced spectrum fees in return for operator commitments to provide coverage in carefully targeted areas. These approaches include offering spectrum for a very low cost or for free when licences are due for renewal, or reductions in annual fees, or reimbursements of a fixed amount of upfront costs in return for coverage commitments in designated areas. These approaches pragmatically recognise the difficulty in providing coverage, or upgrading networks, in specific geographic areas where the economics of mobile service delivery are most challenging.

The business plan of mobile network operators (MNOs) is closely linked to the availability of spectrum and the conditions under which it is made available. Therefore, lack of information regarding the government's intentions to release and renew spectrum creates an uncertain financial future for MNOs. Having a roadmap that describes the government's spectrum strategy reduces uncertainty by allowing MNOs to assess the long-term value of their infrastructure investments. By releasing this roadmap, governments can help to reduce risk for MNOs and have a positive impact on their network investment decisions.

[9] GSMA (2019) The Impact of Spectrum Prices on Consumers

2. Avoid license terms and conditions that discourage network expansion

Technology-neutral licences give MNOs the flexibility to use the technology that best suits their needs and introduce new technologies that enable new digital dividend spectrum assignment map and better services to their customers in urban and rural areas. The gain in spectrum efficiency achieved by introducing new technologies can be substantial allowing operators to increase the capacity and coverage of existing and new cell sites.

At the same time, regulators should caution for affecting competition dynamics that create imbalances among operators by the introduction of technology neutrality to existing licenses. In this case, an adequate competition assessment and stakeholder consultation process are needed prior to changing the licence regime to ensure a positive long-term effect on the market.

3. Reduce mobile-specific taxes and fees that impede rollouts and harm internet affordability

Mobile consumers and operators are subject to a substantial tax burden, increasingly driven by sector-specific taxes, which is limiting the ability of operators to invest in network expansions. A recent global tax study by GSMA found that consumer taxes were 19% of the total cost of mobile ownership, for example[10]. These taxes and fees on the sector that go beyond general taxes distort markets and affect levels of prices and investment. Reducing sector-specific taxes leads to increases in the adoption and use of mobile services. By extending the user and tax base, reductions in taxation have a positive impact on government revenues in the medium to long term. Phased reductions of sector-specific taxes and fees represent an effective way for governments to signal their support for the digital connectivity agenda and to benefit from economic growth resulting from the reductions, while limiting significant negative impact on public finances in the short term. More affordable services will enhance demand in low-income rural areas in particular, which will improve the attractiveness for operators to extend coverage to these areas.

High tax levels and uncertainty can create poor environments for operators considering investments in the deployment of new technologies and networks. Markets where consumer taxes were changed four times or more over the period 2011–2017 (for instance, Bangladesh, Brazil and Egypt) have an infrastructure rating in the GSMA Mobile Connectivity Index that is on average 17 points lower than markets where consumer taxes were not changed[11].

Figure 2: Sector specific taxation and connectivity in Sub Saharan Africa

[10] GSMA (2019) Rethinking Mobile Taxation to Improve Connectivity
[11] Ibid

4. Simplify and streamline local planning and approval processes

Mobile networks are designed at the national level to provide a consistent service quality across a country's territory. However, these networks are built locally, which means mobile network operators must comply with the rules and regulations enforced at the local level (by regional, state or municipal authorities) when deploying, maintaining, and upgrading their network infrastructure.

Operators often face a complex range of local challenges. Inconsistent local regulations and lengthy permit approval processes prevent MNOs from streamlining their deployment processes at the national level. In Latin America, for example, the average permit approval process exceeds six months, and can reach to more than two years for certain countries or municipalities. Another challenge is that local governments often lack the technical expertise available at the national level to guide regulatory design, which may result in ill-conceived regulations. More directly, local governments may impose arbitrary charges and levies for site approvals that increase the costs of building new sites. Hence, the cost of building a classic macro-cell in rural areas is usually above US$ 150,000, as it requires significant work to build a foundation to support large towers that can cover a wide area. Moving these towers can be extremely expensive, which weakens the position of MNOs when renegotiating a land tenancy agreement which may lead to opportunistic behaviour on the part of the landlord, which is usually the municipality itself.

National authorities can – and should – play an active role in reducing the complexity of regulations and administrative processes to deploy infrastructure. To achieve this, they should elaborate guidelines that ensure consistency, simplicity, and rapid implementation of regulations across local governments on: planning regulations, health and safety regulations, permits and approvals processes, and access to land and infrastructure. Standardising rules does not mean that local governments should be excluded from regulating the deployment of infrastructure within their territory, rather, it means there should be a common national framework to follow.

5. Infrastructure sharing on a voluntary basis

Operators often struggle to deploy mobile broadband in rural and remote areas, as costs can be prohibitive, revenue lower and logistics complex. The average revenue of a rural cell site can be 10 times lower than one in an urban setting, while the cost of building and maintaining network infrastructure in a rural area is often double. Towers, civil works, power and backhaul cost all increase significantly as locations are more remote. For rural mobile broadband coverage to be commercially viable and sustainable, the cost of rolling out and operating networks must be reduced, particularly in low- and middle-income countries (LMICs).

Voluntary infrastructure sharing can address this cost challenge by lowering the cost of deployment and risk of investing in network expansion, especially in rural areas. Regulators should seize this opportunity by adopting regulations that allow for active and passive infrastructure sharing. In some cases, network sharing can be less appealing to an MNO that considers coverage as a competitive advantage and prefers to pursue an infrastructure based competition strategy. If this is the case, forcing an MNO to share its infrastructure might reduce its incentives to invest and expand to new uncovered areas. Regulation that encourages voluntary network sharing on a commercial basis opens the door for MNOs willing to co-invest, while avoiding discouraging MNOs that want to invest.

6. Government intervention should only be considered once all other regulatory measures are exhausted

Earlier sections of this contribution laid out policy considerations to strengthen an enabling environment that incentivizes MNOs to invest and expand mobile broadband coverage, especially in rural areas. However, in certain areas this market-driven approach reaches its limits. In such cases,

governments should explore intervening only after exhausting all regulatory measures to maximise coverage through market driven mechanisms. In other words, governments should focus first on clear policies that maximize private investments in coverage expansion. Any regulatory intervention should be considered on a case-by-case exercise that is based on a cost benefit analysis of all available alternatives.

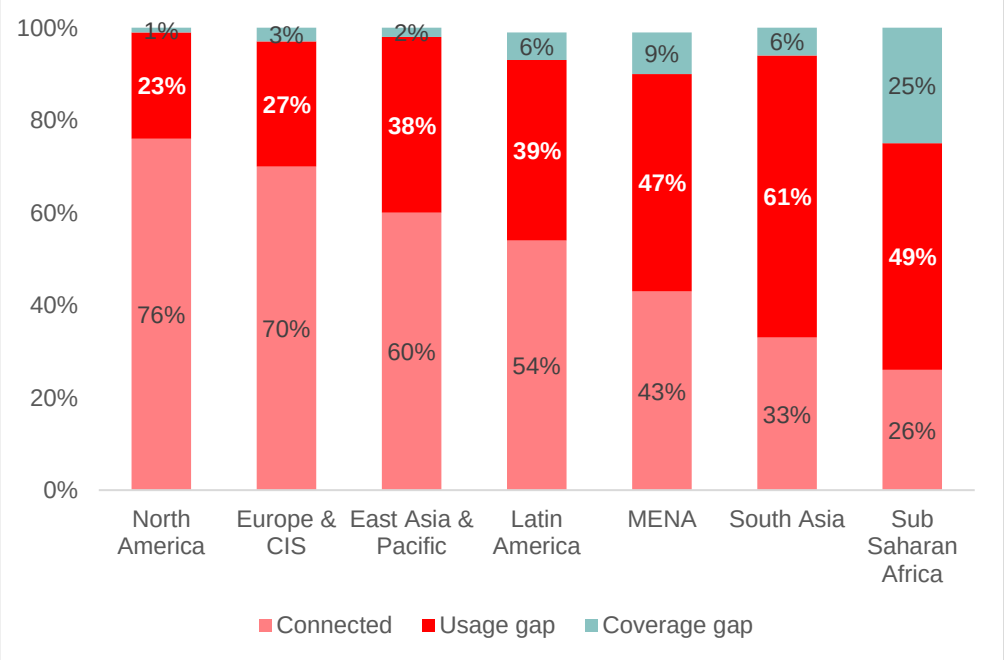
One such consideration could be regarding Community Networks. Community Networks can be characterized as a 'do it yourself' approach to connectivity: local, community-owned (or community-managed) networks that are addressing specific and local connectivity needs. Community Networks often utilise WiFi technology in unlicensed spectrum for their operation, although very few countries have assigned spectrum specifically for their operation.

Community Networks are a specific solution to often unique geographical, commercial, and/or logistical challenges in delivering connectivity, strongly depending on engaged individuals. These unique characteristics are limiting their scalability and applicability as a general policy mechanism to expand internet access to over 600 million people. Regulations and supporting policies should equally empower community networks and operators in ways that do not impair connectivity expansion initiatives through large-scale commercial networks, for example, by carefully assessing the risk of underusing scarce spectrum resources set aside for community networks.

Digital inclusion goes beyond infrastructure and requires addressing the barriers to internet use

Internet adoption has been lagging mobile broadband coverage, resulting in a significant usage gap, of 3.4 billion people who are not using the internet but have access to it. Although being a global challenge, the usage gap is largest in LMICs, particularly in South Asia, Sub Saharan Africa and the Middle East & Northern Africa (MENA). Advancing digital inclusion and ensure that 3.4 billion individuals are in a position to start using the internet requires pragmatic and forward looking policies that go beyond expanding mobile broadband.

Figure 3: State of Mobile Internet Connectivity by Region (2019)



Factors beyond infrastructure that are holding back the adoption of the internet include affordability, the availability of locally relevant content and services, knowledge and digital skills, trust and security as well as accessibility for disadvantaged groups. Governments can implement measures to address these five barriers and stimulate demand for internet services, including:

- Reduce mobile-specific taxes and fees that harm internet affordability and discourage the adoption of mobile devices;
- Encourage the development of local ecosystem of digital products, apps and services that meet the needs, preferences and capabilities of unconnected people;
- Investing in digital literacy and skills. Such skills can be promoted by mainstreaming digital skills into school curriculums and by encouraging the use of mobile and digital public services across all levels of government and society;
- Support and conduct research on the threats, as well as cultural or social norms, that prevent citizens from accessing and using the internet in different social and cultural contexts. Facilitate access to handsets, electricity, agents and formal IDs, in particular, for the poorest and most disadvantaged people, including those with disabilities and women. In addition, efficient distribution channels for handsets should be enabled, especially in rural and remote areas.

The time to act is now

As societies increasingly rely telecommunications and digital technologies, during COVID-19 more than ever, we cannot afford to leave anyone behind. It is increasingly urgent that effective, tangible and measurable action is taken to overcome the coverage and usage gaps, as the persistent digital divide will have long term ramifications for the ability of societies to absorb the impact of COVID-19 and progress on the UN Sustainable Development Goals. Only by working together and address the challenges head-on can we ensure that everyone has an equal opportunity to benefit from an increasingly digital world. Communication and transparency between the public and private sectors are essential to meet this goal, and the impact of the ITU Council Working Group on International Internet Related Public Policy Issues would be enhanced if it was open to all stakeholders.

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