GSMA

GSMA
Climate Policy

November 2023

Mobile Industry Climate Action

The latest science warns that the impacts of climate change are greater and more far reaching than previously understood, and that the window of opportunity to remain within the Paris Agreement's 1.5°C temperature goal is quickly narrowing. The mobile industry recognises the importance and urgency of tackling the climate crisis, which is why the industry are taking action to mitigate our own impacts while deploying digital solutions to reduce emissions and enhance resilience in other sectors and society.

The mobile industry sees opportunities to be harnessed through the climate transition. The industry is building trust, managing costs as well as investor expectations, reducing impact and creating innovative solutions to the climate crisis.

Connected digital technology can support behaviour and policy change in how we live, work and socialise. The mobile sector stands ready to collaborate to help societies to move towards a net zero world.

This requires a common vision, but also the consideration of a diverse range of market realities and steps needed to build the investment, incentives, infrastructure and policy frameworks to reach a net zero carbon economy.

In 2019, the GSMA with the support of its Board members, set an industry wide ambition to work towards achieving net zero GHG (Greenhouse Gas) emissions by 2050, through the following steps:
- Disclosure of operators' climate impacts, risks and opportunities through the global reporting platform, CDP
- Development of an ICT sector and mobile industry pathway to net zero carbon emissions in collaboration with the International Telecommunications Union (ITU), Global Enabling Sustainability Initiative (GeSI), Science Based Targets Initiative (SBTi) and the Carbon Trust, which was approved and launched in February 2020[1]
- Commitment by GSMA members to set a 2030 target that is aligned with the net zero pathway to 2050, or to set a carbon reduction target aligned to the National Determined Contribution (NDC)

In 2021, the mobile sector was recognised by the UN as a breakthrough sector with more than 20% of the industry committing to reach net zero by 2050 and more operators continue to join this group each year.

---

[1] https://www.gsma.com/newsroom/press-release/ict-industry-agrees-landmark-science-based-pathway-to-reach-net-zero-emissions/

GSMA

Industry Commitment to Climate Action

The mobile industry recognises there is a climate and environmental emergency and commit to working together address the challenge. The industry is reducing emissions and aligning with a 1.5°C science-based target to support the trajectory to transition to net zero emissions by 2050.

The following actions are being taken:

1. Encouraging operators and suppliers to disclose climate impacts, risks and opportunities to CDP every year so stakeholders can understand how the mobile industry is progressing
2. Setting emission reduction targets with best practice being aligned to the ICT sector pathway[2] to net zero GHG emissions by 2050 or earlier
3. Reducing Scope 1 and 2 emissions through energy efficiency improvements, purchasing and using renewable energy, and electrifying heat and fleet vehicles[3]
4. Measuring and reducing Scope 3 emissions[4] by engaging with suppliers to encourage them to set carbon reduction targets and reduce emissions
5. Supporting other sectors to decarbonise through the use of smart connected technologies and behaviour change to improve efficiency and enable the low carbon economy[5]

The mobile industry calls on governments to:

- Prioritise a just transition to economy-wide net zero emissions by 2050 at the latest, including strengthening countries' NDCs and 2030 targets in line with a 1.5°C trajectory
- Lay out national policies and plans to enable the achievement of these targets, in particular policy frameworks that support the transition to renewable electricity, investment in new energy efficient mobile technologies
- Develop just transition plans, through dialogue with business and other stakeholders, that create and protect resilient green jobs, and provide education, reskilling and retraining opportunities for the workforce
- Put in place policies and economic incentives to reward companies' low-emissions strategies
- Provide support for research, development and deployment of new climate technologies
- Facilitate financing and public procurement to create demand and accelerate private sector investments to deploy proven tech at scale

---

[2] https://www.gsma.com/betterfuture/resources/setting-climate-targets
[3] https://www.gsma.com/betterfuture/resources/achieving-climate-targets
[4] https://www.gsma.com/betterfuture/resources/scope-3-guidance
[5] https://www.gsma.com/betterfuture/climat-action/digitisation

GSMA

Energy Efficiency

As mobile usage and demand for widespread connectivity continues to grow, so does the demand for data, accessed through network infrastructure. With greater data traffic, there is upward pressure on electricity use across networks. For financial and environmental reasons, energy efficiency is high on the corporate agenda of mobile operators. The industry has been driving innovation in each new generation of network, with 5G being the most energy efficient yet.

The roll-out of 5G and greater densification of towers means in the short term there is expected to be an increase in electricity consumption of mobile networks, supporting the increase in data traffic. This increase can be mitigated by the retirement of older, less energy efficient 2G and 3G networks, by the switch from copper to fibre for fixed networks, and through deployment of energy efficiency features of 5G such as AI-optimised sleep modes.

GSMA

Industry commitment to energy efficiency

The mobile industry is committed to energy efficiency. This is an important part of achieving carbon reduction goals and helping move the industry to net zero emissions. The industry is taking action in several ways:

- Improving the efficiency of new networks with 5G's specification calling for a 90 per cent reduction in the energy used to transfer each unit of data[6]
- Switching off and removing legacy network equipment as soon as it becomes feasible to support the migration to newer, more energy efficient equipment
- Running efficiency programmes to identify energy hotspots and deploy measures to reduce energy consumption. Examples of best practice include temperature optimisation, free cooling at cell sites, power saving features including through AI, selective switch-off and generator battery hybrids
- Encouraging operators to gain the ISO 50001 certificate, the standard for energy management systems in organisations
- Sharing and encouraging alignment with energy best practice across the industry to highlight operators' energy efficiency measures[7]
- Making fleets more energy efficient by investing in more fuel efficient and lower carbon vehicles and improving access to electric vehicle charging stations to facilitate the transition

The mobile industry calls on governments to:

- Support the roll out of newer, more energy efficient networks such as 5G, where it is feasible, including through efficient spectrum policy
- Enable older less energy efficient legacy equipment to be retired in regions where this is feasible and circumstances dictate market readiness for deployment
- Provide incentives for businesses to deploy energy efficiency measures, for example, through reduced taxation when upgrading equipment, regulatory treatment and competition rules in favour of voluntary network sharing agreements, preference in public procurement
- Support research and development into innovative efficient technologies, for example of network equipment, data centres and buildings

---

[6] https://www.gsma.com/wp-content/uploads/2019/04/The-5G-Guide_GSMA_2019_04_29_compressed.pdf
[7] https://www.gsma.com/betterfuture/climate-handbook

GSMA

Renewable Energy

The fastest route for mobile operators to reduce carbon emissions is by using, purchasing, and investing in renewable energy to power their operations. Many operators around the world are already doing this and have targets put in place to source all of their electricity requirements from renewable sources.[8]

However, there are challenges in sourcing renewables in many markets. For some markets, this is due to a lack of sourcing options due to centralised market control, while for others this is due to a lack of appropriate financial and legal structures to support investment in renewables. High costs are a barrier in some countries, while others lack access to sufficient renewable energy resources. For some, it is a combination of these and other factors.[9]

Industry commitment to renewable energy

The mobile industry recognise the urgent requirement to decarbonise electricity. The industry supports the phase out of fossil fuel use and production supporting the ramp up of clean and renewable sources generation to increase renewable capacity. The following actions are being taken:

- Developing targets and demonstrating progress to source 100 per cent renewables for networks, data centres, buildings, and infrastructure including towers managed by towercos and ESCOs
- Publicly declaring our renewable energy commitments, for example through the RE100 initiative, sending strong demand signals to the marketplace and to policymakers
- Engaging with financial institutions to boost investment in new renewables capacity, for example by installing onsite renewable energy and by agreeing power purchase agreements (PPAs) with new generators
- Engaging with policymakers to highlight the challenges around developing and accessing renewables and advocating solutions to these challenges

The mobile industry calls on governments to:

- Implement policies, regulations, market design, and permitting that help accelerate the deployment of renewable energy generation and expansion of electricity networks, including corporate purchases of renewable energy
- Address financing gaps and barriers for clean energy investments, particularly in developing countries where the cost of capital is high

---

[8] https://www.gsma.com/betterfuture/resources/mobile-net-zero-state-of-the-industry-on-climate-action-2023

[9] https://www.gsma.com/betterfuture/resources/mobile-industry-position-paper-access-to-renewable-energy

- Provide policy and financial support for renewable energy such as distributed solar, batteries, and solar mini-grid projects
- Support innovation to further reduce costs and improve technology performance of solar, wind and other clean energy sources, as well as the use of digital technologies to maximise the benefits of variable renewables
- Set targets and timelines to phase out fossil fuel subsidies and unabated fossil fuel generation in line with 1.5 °C
- Support Low and Middle Income Countries (LMICs) in diversifying their energy systems and developing 1.5 °C pathways, to support a just transition.

Digital Transformation Reducing Emissions: the Enablement Effect

Mobile and other connected digital technologies have an immense capacity to tackle climate change through the digital transformation of industries and activities. The mobile sector is committed to reducing its own emissions, but its greatest contribution to combating climate change can be reducing the emissions of wider industries through smart connected technologies and behaviour change.[10]

Digital technologies are expected to transform all parts of the economy over the next decade and, if sufficient policy and investment is received, has the potential to be a key driver of low carbon development.[11]

The mobile industry calls on governments to:

- Recognise digital transformation can support decarbonisation. For a just transition, this should be accompanied by supporting policy measures in place to minimise any negative employment impacts resulting from these
- Encourage and incentivise private and public investments in digital infrastructure and solutions that contribute to climate change mitigation or adaptation and to include them in existing and future state aid programmes such as tax reductions etc., regardless, of the sector
- Promote policies that favours a broader digital transformation of the economy combined with a robust digital governance framework to boost the transformation that many sectors must undertake
- Encourage the use of smart technologies that reduce emissions, for example:
  - reduce building energy consumption
  - connect and automate vehicles to reduce transportation emissions
  - increase renewable energy networks through smart grids

---

[10] https://www.gsma.com/betterfuture/resources/the-enablement-effect

[11] https://www.gsma.com/mobilefordevelopment/resources/the-role-of-digital-and-mobile-enabled-solutions-in-addressing-climate-change/

○ support remote working and virtual meetings
○ improve agricultural resilience and adaptation, and reduce resource consumption
○ advance manufacturing processes and the ecosystem around them to create more flexible, efficient and sustainable production lines
○ help consumers increase energy efficiency

Supply Chain Sustainability

One of the biggest impacts the mobile industry has on the environment is from the manufacturing and use of devices and equipment. Although mobile phones and network equipment form a small proportion of overall e-waste by weight, they are more valuable than some other waste streams because of the rare earth minerals and metals within them.

The mobile industry is committed to improving the sustainability of devices and equipment by moving away from linear business models of mine-manufacture-use-dispose, and towards more circular business models that repair, reuse and recycle equipment. These circular business models treat unwanted equipment as sources of material for other uses, rather than as waste.[12]

The benefits of circular economy and its necessity are undeniable, and while the industry is practising circular economy with mostly separate initiatives, the GSMA has created a strategy that outlines opportunities to create a global and unified vision for the whole ecosystem, including network equipment.[13] The strategy vision is underpinned by two key principles; increasing the longevity of devices and zero waste to landfill.[14] Mobile companies are actively engaging in and supporting new e-waste policies and legislation around the world, and creating new reverse logistics supply chains to manage the flow of equipment for recycling. Leading operators are also focussed on boosting the takeback of unwanted mobile phones and sending zero waste to landfill[15].

The mobile industry calls on governments to:

- Form clear policies and standards to drive energy and materials efficiency and circularity
- Drive demand for low carbon and circular materials via sustainable public procurement policies
- Include recommendations that products are designed for circularity

---

[12] https://www.gsma.com/mobilefordevelopment/blog/understanding-the-mobile-waste-management-efforts-of-mnos-in-emergingmarkets

[13] https://www.gsma.com/betterfuture/wp-content/uploads/2022/11/Strategy-Paper-for-Circular-Economy-Network-Equipment.pdf

[14] https://www.gsma.com/betterfuture/wp-content/uploads/2023/02/Strategy-Paper-Circular-Economy-Mobile-Devices.pdf

[15] https://www.gsma.com/betterfuture/reuse-refurbish-recycle

- Create innovation support and incentives to support circular solutions
- Develop infrastructure for handset reuse, and component and material recycling
- Engage with operators and equipment/device manufacturers on waste and what happens at the end of a product's life

Supplier Engagement

Scope 3 emissions equate to approximately 70% of mobile operator emissions. To support operators to assess and accurately report on their emissions, the GSMA collaborated with GeSI and the ITU to create an industry-specific Scope 3 Guidance[16]. This guidance harmonises methods for telecommunication operators to assess and report their Scope 3 GHG emissions, to increase its coverage, and transparency.

The industry is also working with suppliers to evaluate their level of sustainability through initiatives such as JAC and Eco-rating of Devices, to support them to manage and reduce their environmental impacts.

Coordinated collaboration and engagement will support the industry to gather the data required to understand the lifecycle of emissions across the 15 categories of Scope 3.

The mobile industry calls on governments to:

- Harmonise policy environments across markets to enable collective action to decarbonise value chains
- Implement NDCs that support halving global emissions by 2030 and commit to achieving net zero by 2050
- Publish and communicate clear and credible transition plans
- Stimulate investment into new and innovative technologies

Nature and Biodiversity

Climate change impacts are being amplified through biodiversity loss and environmental degradation and it is therefore important that this challenge is approached in parallel to the other climate action measures.

Mobile operators can be linked to biodiversity-related impacts across the value chain, including the sourcing of raw materials needed to manufacture goods, impacts on land from network infrastructure or sites, and potential contamination from waste disposal[17].

---

[16] https://www.gsma.com/betterfuture/resources/scope-3-guidance

[17] gsma.com/betterfuture/wp-content/uploads/2023/04/Material-sustainability-issues-for-the-mobile-sector-–-2023-Update.pdf

GSMA

Mobile network operators are committed to identifying the activities that have the greatest impact on nature and collectively sourcing solutions to reduce those impacts.

Adapting to a Changing Climate

As climate change leads to rising sea levels, floods, heatwaves, more hurricanes, tornados and other extreme weather events, mobile operator networks will be damaged with greater frequency, resulting in greater financial risks and more service disruption.

Operators are likely to come under increasing pressure to make their networks as robust as possible so that they can withstand extreme weather and/or be restored quickly. At the same time, mobile technology is uniquely positioned to provide and enable tools for climate change mitigation, adaptation, weather disaster response, pollution and environmental monitoring.

95% of the world's population is covered by a mobile network and there are [5.4 billion unique mobile subscribers globally](#). Mobile therefore can play a life-saving role in early warning dissemination and communication, and our existing mobile networks are ideally placed for risk alerts.

The United Nations Secretary General announced an ambition for everyone in the world to be protected by an early warning system by 2027. Working closely with the ITU, International Federation of Red Cross and Red Crescent Societies, and other partners the GSMA is focussing on Warning Dissemination and Communication.

Examples of mobile technology being used to increase climate mitigation, adaptation and resilience include:

- Mobile operators disseminate warnings, using cell broadcast, SMS or Interactive Voice Response (IVR) – and prepare for and respond to disasters by coordinating with first responders and governments.
- Mobile operators leveraging their Big Data & AI capabilities to develop insights to governments and aid agencies to monitor air pollution levels, prepare for disasters and analyse their impact on a country.
- Mobile-based weather forecasts and agri-climatic advisory, for example, provide information to help vulnerable smallholder farmers dependant on rain-fed agriculture adapt to climate change. A number of operators are partnering through GSMA's AI for Impact initiative.