



# **CONSULTATION PAPER ON FRAMEWORK FOR ASSESSMENT OF EXPOSURE TO RADIO FREQUENCY ELECTROMAGNETIC FIELDS , ENVIRONMENTAL IMPACT ASSESSEMENT (EIA) GUIDELINES AND FRAMEWORK FOR CARBON EMISSION REDUCTION**

## **1. Introduction**

The Communications Authority of Kenya (CA), established in 1999 by the Kenya Information and Communications Act, 1998, is the regulatory Authority for the Information and Communication Technology (ICT) sector in Kenya. The Authority therefore facilitates development of broadcasting, cybersecurity, multimedia, telecommunications, electronic commerce(e-commerce), as well as postal and courier services. The Authority facilitates the development of the subsectors through licensing, competition management, frequency and numbering resource management and ICT consumers protection.

## **2. Background**

The increased uptake of ICT services in the country, evidenced by ICT sector statistics reports published by the Authority on quarterly basis, and increased digitalisation of government services, requires continuous development of new ICT infrastructure.

The new ICT infrastructure include Base Stations, Data centres, Fibre optic cable laying and new end user terminals. The life cycle of these new infrastructure, from production, deployment and disposal, despite being instrumental in the update of ICT services, if not managed judiciously, can have negative impact on the environment.

For instance, the production process of the ICT equipment emits Carbon dioxide into the atmosphere, their deployment results in excavations which interfere with the biodiversity of the organisms in the soil, their operations emit electromagnetic fields (EMF) which could affect the health of living organisms, and the final disposal process may also emit Carbon dioxide into the atmosphere. This life cycle therefore contributes to the greenhouse effect, which leads to global warming. This can be managed through effective Electromagnetic Fields monitoring, Environmental Impact Assessment and a deliberate ICT carbon footprint reduction framework.

## **3. Electromagnetic Fields (EMF) Monitoring**

Electromagnetic Fields refers to invisible energy (radiations) resulting from use of electronic, electrical and various forms of natural and man-made lighting. They are grouped into two as non-ionizing, which are in low-level radiation which are generally harmless to humans and Ionizing which are high-level radiation which are potentially harmful to human beings.

ICT equipment emit non-ionizing radiation, which albeit harmless, it has to be controlled for safety and health of the ICT service consumers, as well as electromagnetic compatibility (EMC) purposes.

The Authority therefore wishes to develop a framework for monitoring the EMF energy emitted by various ICT equipment installed in the country.

#### **4. Environmental Impact Assessment (EIA)**

Environmental Impact Assessment refers to determination of consequences that will be experienced in the environment (air, water, soil and sound). During construction, use and disposal of ICT equipment and systems, it is noted that they have consequences on the environment.

Before any approval for a project is granted by the National Environmental and Management Authority (NEMA), an Environmental Impact Assessment has to be carried out by NEMA licensed EIA experts, who then submit the report to NEMA for review.

Upon receipt of the reports, NEMA forwards them to various lead agencies of the sector in which the project falls for their comments on the EIA report before a decision is made. The lead agency for ICT in this case is the Authority. Lead agencies are therefore required to develop guidelines to help the Environmental Impact Assessment experts in carrying out the assessments of the impact of the project on the environment.

It is on this basis that the Authority wishes to develop Environmental Impact Assessment guidelines.

#### **5. Carbon Emission Reduction**

Carbon Emission refers dissemination of gaseous matter, mostly carbon dioxide, from burning of substances made of the chemical element called carbon. The carbon dioxide gas produces during combustion lead to the greenhouse effect. The greenhouse effect is a situation where heat from the sun hits the ground surface, however on reflection back into the atmosphere it is trapped by various gases near the earth's surface. This leads to increases in temperature, popularly known as global warming. Global warming leads to climate change.

In the combat against global warming, various sectors are taking initiatives to reduce the carbon foot print of their sectors. In the ICT, the lead agency, which is the Authority, has to make initiatives towards reducing the carbon foot print of the ICT sector.

It is on this basis that the Authority wishes to develop a framework to guide the ICT industry in carbon footprint reduction.

#### **6. Conclusion**

This consultation paper , draft framework for assessment of Exposure to RF-EMF , draft Environmental Impact Assessment (EIA) guidelines , and the draft Carbon Emission reduction framework are meant to stimulate and jump start the public consultation process .