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## GESCI's Environmental Impact Assessment (EIA)

### Introduction

An Environmental Impact Assessment (EIA) is an assessment of the possible positive or negative impact that a proposed organisation or project may have on the environment. GESCI shares the concern of donors and partners about the impact of our work on the environment. We are cognizant of the negative and positive role Information Communication Technology (ICT) can play in environmental sustainability. We believe that ICT has a central role to play in tackling climate change and we are not alone as this article in e-Week Europe confirms: *“Although ICTs are part of the problem, they can also be an important part of the solution. Studies have shown that the application of telecommunications/ICTs can reduce total greenhouse gas emissions by at least 15 percent by 2020. Some estimate reductions of over 40 percent can be achieved through the application of ICTs by 2050, i.e. five times as much as the sector contributes.”*<sup>1</sup>

The use of ICT causes a negative impact on the environment, primarily through the careless disposal of electronic devices (e-waste). Technology can however be used to reduce an organisation's carbon footprint by substituting face-to-face meetings and international travel with teleconferencing and email. *“ICT is a relatively minor part of the problem, but a major part of the solution,”*<sup>2</sup> said Dr. Touré, the director of ITU.

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<sup>1</sup> IT: Part of the Problem, or Part of the Solution? 2009. Available from: <http://www.eweekurope.co.uk/news/news-it-infrastructure/government-to-launch-green-cio-guide-following-cop15-2559> [01/01/13]

<sup>2</sup> IT: Part of the Problem, or Part of the Solution? 2009. Available from: <http://www.eweekurope.co.uk/news/news-it-infrastructure/government-to-launch-green-cio-guide-following-cop15-2559> [01/01/13]

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## About GESCI

GESCI provides policy and strategy advice and technical support to Ministries of Education, Higher Education, and Vocational and Technical Education on the effective integration of ICT in regional and national Education and Training systems. GESCI also implements an online programme in African leadership in ICT for Knowledge Society development (ALICT) in 12 countries.

### **Location**

GESCI has one office in Nairobi, Kenya, from which it oversees all of its regional and global activities. Since centralizing its operations in Nairobi in early 2011 and closing down its European office in Dublin, GESCI has significantly reduced its carbon footprint by operating from one central office allowing a consequential cut back on international flights between the two locations and eliminating the energy consumption of its European office. GESCI has 15 staff operating in three countries and in two continents (Africa and Europe). This figure is down from five countries in 2011 which represents further reductions in flights and energy overheads. Only two staff now work full-time outside of the GESCI offices, with the vast majority of communication between office-based and non-office-based staff being conducted through online ICT facilities. Staff operating outside of the GESCI office travel to the office only when workshops and high-level meetings require them to be present. Staff travel is designed to coincide with several events and multiple meetings so as to reduce the necessity for multiple trips. Staff working outside the Nairobi office work from home, which removes the need to maintain organisational premises outside of Kenya.

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## **Equipment**

In its Nairobi office GESCI has three general-purpose printers which are used to print b/w copies (double-sided) only and which are shared among 13 staff. Most GESCI systems email, Sharepoint and Project management software are hosted in the cloud and hence minimise the use of servers in the office. GESCI staff members have use of a laptop and all laptops are shut down at close of business and are set to hibernate after a short period of non-use.

## **How GESCI's operations impact on the environment**

Note: This list attempts to enumerate the negative and positive impact of GESCI's operations, and highlights the resources GESCI has produced that can be used to advise our government partners and raise awareness of environmental issues when purchasing and maintaining ICT hardware.

### **Positive impact**

- Reduce the impact of traditional "paper" operations with minimal paper use including: minimal printing of documents, online procedures, distribution of information on digital documents and team collaboration via online tools.
- When advising our partner countries on acquisition of IT equipment, we suggest following Green procurement recommendations, to limit the impact on the environment in terms of energy consumption. For additional information please refer to our Green ICT Guide:

[http://www.gesci.org/assets/files/Knowledge%20Centre/Green%20ICT\\_guide.pdf](http://www.gesci.org/assets/files/Knowledge%20Centre/Green%20ICT_guide.pdf)

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- When advising our country partners on end-of-life options for IT equipment and related devices, we suggest following green procedures to ensure they are discarded in an environmentally acceptable manner. We also assist our country partners in planning for responsible disposal of electronic devices. For example we have advised the Rwandan government on the options for disposal of the large quantity of equipment acquired for the 1:1 laptop deployment.
  - When advising on energy issues, we promote the development and use of new, sustainable sources of energy like wind, solar and micro-hydro alternatives. We provide our partner countries with calculation tools on energy needs and our TCO (total cost of ownership analysis including alternative energy solutions. For additional information our TCO tools area available here:  
<http://www.gesci.org/old/files/docman/TCO-deploying-framework.pdf>. This tool, currently being updated, will address green issues, considerations and recommendations.
  - We assist our partner countries in the development of Guidelines, Policies, Plans and Processes related to the green acquisition, use and disposal of IT equipment.
  - In 2010 we worked with Kenya's National Environment and Management Authority to produce Kenya's first National e-waste Guidelines:  
[http://www.gesci.org/assets/files/E-Waste%20Guidelines\\_final%20copy27jan2011.pdf](http://www.gesci.org/assets/files/E-Waste%20Guidelines_final%20copy27jan2011.pdf)  
The objective of the guidelines is to
    - To enhance environmental protection from e-waste.
  - - To establish a basis for a policy and regulatory frameworks on e-waste management.

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- • To raise public awareness on sustainable management of e-waste in Kenya.

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Included in the guidelines are approaches to enhance environmental protection; policy and regulatory frameworks; environmental awareness; categories of e-waste and target groups; e-waste treatment technologies; and disposal procedures.

For additional information please consult our “*Green ICT Guide: A Guide to the conscientious purchase, use and disposal of ICT*”, which contains a brief summary of our main recommendations

[http://www.gesci.org/assets/files/Knowledge%20Centre/Green%20ICT\\_guide.pdf](http://www.gesci.org/assets/files/Knowledge%20Centre/Green%20ICT_guide.pdf)

GESCI appeared on Voice of America TV in October 2011 for a special e-waste feature in which Esther Wachira, Kenya Country Programme Manager, promoted the implementation of the e-waste guidelines which GESCI assisted Kenya’s National Environment Management Authority to produce. <http://www.voanews.com/content/sub-standard-electronics-donated-to-africa-causing-pile-up-of-e-waste-131178143/158968.html>

- We maintain a section on our website dedicated to collecting resources and tools on the issues of Environmental Impact of ICT

<http://www.gesci.org/environmental-impact1.html>

## **Negative impact**

- Most of our negative impact is due to the operation of our offices and personnel.

The main impact is the use of computers and related IT devices, Internet connectivity and travel. However, GESCI’s organisational culture of resource usage accountability means that staff make every effort to conserve energy and minimise travel. Therefore, the careful management of GESCI’s resources by all staff reduces overheads, minimises GESCI’s carbon foot print and reduces our operational impact on the environment:

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- GESCI staff, as a norm, attend events and conferences *only* when they are presenting at, or participating in, events (this reduces our overheads, ensures value-add and minimises air travel).
  - GESCI combines team meetings, board meetings and workshops whenever possible to reduce our carbon foot print by minimizing air travel.
  - The organisation encourages staff to print only important documents that require very detailed study or are necessary for meetings. Very few GESCI staff print documents for reading and referencing. GESCI staff do not print in full colour for internal dissemination and make every effort to print back-to-back where possible.
  - GESCI has discontinued its quarterly newsletters in favor of electronic updates which it is producing at a nominal cost and with increasing frequency. It has also developed a digital 2012 annual report in place of a physical one, which significantly reduces GESCI's printing requirements.
  - GESCI policy on equipment is use, re-use and repair. New laptops, phones, and other equipment are only purchased when repairs to old equipment are deemed uneconomical.

**Measures taken in order to minimise negative impact:**

- We acquire low energy- demanding computers and devices whenever possible. For our own procurement we use Sida's Policy for Green Procurement as a guideline. Our rules state that:
  - o We do not acquire equipment that uses recognized contaminants banned in the EU.

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- When evaluating the acquisition of new equipment we assign more points to green products and technologies.
  - We take into consideration the energy consumption of the equipment.
  
  - We try to minimise energy consumption by optimizing computer use and turning off devices when not in use, as well as extending device use by maximizing lifespan of acquired components through reuse or donation.
  
  - We follow up processes for green disposal of used equipment (according to country laws where we operate).

## Monitoring our environmental impact

At GESCI we are conscious of our influence on the environment and we constantly search for ways to reduce our own impact, as well as reaching a wider audience by making these issues known to our partner countries. We regularly update our research on e-waste, alternative energy systems and other related subjects in order to keep our partners, colleagues, non-governmental organisations and other stakeholders abreast of the latest information and solutions.

### Indicators for monitoring :

- This EIA is revised once a year. When that is done an internal review of our operations takes places, to make sure the correct guidelines for equipment acquisition, use and disposal are being followed.
  
- Our Procurement Policy is reviewed once a year.
  
- Our resources page on the website is updated every month.

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## Administrative frameworks, laws, policies and international conventions that affect our operations and projects

- GESCI, 2010, Green ICT Guide: A Guide to the conscientious purchase, use and disposal of ICT, accessed, 01/01/13  
<[http://www.gesci.org/assets/files/Knowledge%20Centre/Green%20ICT\\_guide.pdf](http://www.gesci.org/assets/files/Knowledge%20Centre/Green%20ICT_guide.pdf)>
- National Environment Management Authority (NEMA), 2010, Guidelines for e-Waste Management in Kenya, e-handbook, accessed -01/01/13.  
<[http://www.nema.go.ke/index.php?option=com\\_content&task=view&id=376&Itemid=37](http://www.nema.go.ke/index.php?option=com_content&task=view&id=376&Itemid=37)>
- European Commission 2004, Buying Green, A Handbook on Environmental Public Procurement, e-book, accessed 01/01/13  
<[http://ec.europa.eu/environment/gpp/pdf/buying\\_green\\_handbook\\_en.pdf](http://ec.europa.eu/environment/gpp/pdf/buying_green_handbook_en.pdf)>
- Sida, 2002, Sida's Policy for Green Procurement – for Cooperating Partners, e-handbook, accessed 01/01/13  
<http://www.sida.se/Global/Partners/Procurements/SidaPolGreenProc.pdf>