



The Potential of ICT to Improve Resource Efficiency

The United Nations Environment Program,

Recalling resolution 69/204 on 19 December 2014, entitled “Information and communication technologies for development,”

Further recalling the United Nations Conference on Sustainable Development, held in Rio de Janeiro, Brazil, from 20 to 22 June 2012, and its outcome document, entitled “The future we want,”

Reflecting upon the United Nations 2030 Agenda for Sustainable Development that has embraced the spread of ICTs and global interconnectedness as having great potential to accelerate human progress, to bridge the digital divide, and to develop knowledge societies,

Acknowledging the positive trends in the global connectivity and affordability of information and communications technologies, particularly the steady increase in Internet access to one third of the world’s population, which offer great potential for the development of the information society,

Defining resource efficiency as using the Earth's limited resources in a sustainable manner while minimizing environmental impact,

Further defining Information and Communications Technology (ICTs) as mediums that provide access to information through telecommunications,

Confident that the potential environmental benefits of Information Communication Technologies (ICT) can outweigh the potential detrimental effects of increased resource use, if emphasis is put on sustainable innovation,

Further confident that energy efficiency increases as a result of ICT will assist the global community in reaching the goals of the 2030 Agenda for Sustainable Development,

1. *Affirms* that ICTs have a great potential in increasing energy efficiency, namely through the following effects:
 - a. Modern telecommunication systems (e.g. phones, internet) can dramatically reduce the resource cost of communications compared to conventional methods (e.g. letters, messengers), as well as reduce the need for personal travel for both business and personal matters,
 - b. These same communications technologies allow for much easier coordination within infrastructure (e.g. coordinate trucks of a transportation company to always be loaded to full capacity), resulting in a minimum of resources being used,
 - c. The internet has the potential to provide a large amount of people with access to information and education, a proven method of increasing environmental awareness among a population both through personal and educational use,
 - d. Modern control software can improve the energy efficiency of tasks in large facilities such as factories and power plants (e.g. precise coordination between energy production and energy demand), which will result in less wasted energy and resources,

- e. The installment of information technologies is the first step that must be taken in order to provide institutional stability and create the proper prerequisites for environmental progress within a developed economic market:
 - i. Indigenous and remote national populations cannot possibly adhere to national legislation on resource efficiency if they have no means of communication,
 - ii. Establishment of complex methods of communication brings society closer together, eliminating transaction costs and allows efficient means of supervision and enforcement to oversee successful climate initiatives;
2. *Recognizes* that spread of ICTs in developing countries will require significant developments in infrastructure and economy in these countries, which should be promoted, for instance through foreign investments;
3. *Urges* the United Nations Economic and Social Council (ECOSOC) to explore legislation to incentivize corporations and NGOs of developed countries to invest into developing nations in order to increase ICT capabilities, acknowledging that these investments can be done in the form of money, human resources or knowledge transfer;
4. *Encourages* private investments through the utilization of environmental knowledge sharing and grants rather than direct funding from sovereign states:
 - a. Member countries of the UNEP should promote research in sustainable development through grants for individuals and institutions;
5. *Further recommends* that the IMF and World Bank collaborate their power to create and incentivize the expansion of ICTs within the developing world:
 - a. Recognizes that private corporations are often regulated by the IMF, who oversees the development of emerging markets, to ensure that an emphasis is placed on the innovation of Green-Tech and resource efficiency rather than profits;
6. *Further resolves* to pivot interests of resource efficiency from a paradigm of reducing the negative impact to a paradigm of strengthening the positive impact:
 - a. Recognizing the impact of ICTs on resource efficiency, we must also remain vigilant to rebound effects and externalities;
7. *Takes note that* UNEP members must focus specifically on the gathering of environmental statistics in order to raise the yield of knowledge sharing:
 - a. The gathering of statistics can help the international community to find out where the world is on pertinent issues,
 - b. This gathering of statistics will serve as a guide to allow the UNEP to offer valuable environmental statistical information to guide NGO's with effective information in order to provide proper economic resources and human resources to improve information technologies within the developing world,
 - c. The utilization of collaboration with other UN bodies (e.g. ECOSOC, OHCHR, CESCR) will help bring us closer to meeting the United Nations 2030 agenda for sustainable development;
8. *Recognizes* that without technological infrastructure, nations within the developing world will not possess the ability to create modern and innovative markets to incentivize resource efficiency:

- a. Accessible infrastructure will allow developing states to reduce CO₂ emissions by establishing a floor to build upon regarding ICTs. Urges member-states to adhere to the following:
 - i. Ensure that the entire population within state borders attain reasonable access to clean electricity (e.g. hydro-electricity) and telecommunications,
 - ii. Utilize factor endowments such as water or wind to improve upon or initially establish a national power grid;
 9. *Affirms* all NGO's should be transparent within its environmental information sharing with all participating parties in order to enhance cooperative capabilities in evaluating the success of ICT technologies;
 10. *Drawing attention to* the issue of e-waste and its damaging effects that disproportionately harm populations within the developing world:
 - a. Calls for the enforcement of current legislation in place that are not properly regulated and do not hold violating parties accountable,
 - b. Recognizing the harms and risks of planned obsolescence that are directly linked to the disposal of all electronic devices the UNEP calls for the proper handling and disposal of materials to combat pollution;
 11. *Calls for* the direct development of information technologies as the precursor of all further methods of development:
 - a. Further proclaiming that technological niches and further innovations must follow immediate improvements of telecommunication, internet accessibility, electrical grids and effective means of transportation to enhance developments in health, education, and institutional strength;
 12. *Proclaims* that infrastructures should be transformed or established to make economies into industrial ecosystems through:
 - a. utility or infrastructure sharing: pooled management of commonly used resources such as energy, water, and wastewater,
 - b. joint provision of services: meeting common needs across firms for ancillary activities such as fire suppression, transportation, food provision, etc.,
 - c. by-product exchanges: exchange of firm-specific materials between two or more parties;
 13. *Insists on* improvements in environmental education in developing countries with the purpose to develop knowledge of sustainability, ICTs, and resource efficient technologies.
 - a. Nurturing academics to devote more research towards ICTs and resource efficiency.
 - b. Incentivizing engineering students to further conceptualize environmental issues regarding resource efficiency.
 - c. Supporting academics on setting up sustainable resource management courses.
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