

Criterion 3: Research, Innovations and Extension

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/international conference proceedings per teacher

ARUN PADMANABHAN

CAMPUS

Kottukulam Hills, Pathamuttom P. O., Kottayam - 686 532, Kerala | Tel: +91 481 2433787 | scas@saintgits.org

CORPORATE OFFICE

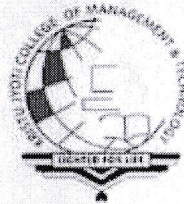
III Floor, Unity Building, K. K. Road, Kottayam - 686 002, Kerala | Tel: +91 481 2584330, 2300365 | mail@saintgits.org

www.saintgits.org

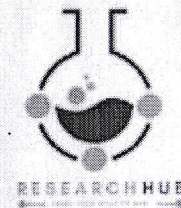
ISBN 978-93-91286-40-8



KRISTU JYOTI COLLEGE OF MANAGEMENT & TECHNOLOGY
IQAC | Department of Computer Applications
RESEARCH HUB



CERTIFICATE OF PRESENTATION



THIS CERTIFICATE IS PROUDLY PRESENTED TO

Arun Padmanabhan

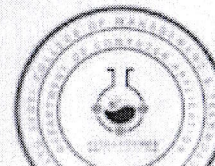
OF SAINTGITS COLLEGE OF APPLIED SCIENCES, PATHAMUTTOM
FOR SUCCESSFULLY PRESENTING A PAPER AT THE FIRST INTERNATIONAL
CONFERENCE ON ADVANCE MODERN COMPUTING TRENDS AND TECHNOLOGY
(ICAMCTT 2021) ON 30TH & 31ST OF JULY 2021

Paper Title : E-waste Management : An approach to Green Computing



REV. FR. JOSHY CHEERAMKUZHY CMI

Principal



SUSHEEL GEORGE JOSEPH

Conference Secretary

E-waste Management: An Approach to Green Computing

Archana Krishnakumar
Department of Computer Applications
Saintgits College of Applied Sciences
Kottayam, India
archanak.bca1922@saintgits.org

Revathy P
Department of Computer Applications
Saintgits College of Applied Sciences
Kottayam, India
revathyp.bca1922@saintgits.org

Asst.Prof. Arun Padmanabhan
Department of Computer Applications
Saintgits College of Applied Sciences
Kottayam, India
arun.padmanabhan@saintgits.org

Abstract — This paper intends to portrait how E-waste management and Green Computing helps to make the environment carbon-free and energy-efficient. Anything that runs on electricity that you have decided to get rid of constitutes E-waste. Eco-friendly and environmentally responsible usage of computers and their resources are said to be Green Computing. Here we discuss various sources of e-wastes, problems caused by them, their effects, different steps for proper handling of these toxic and harmful wastes to make the development process sustainable and green. The goal is to reduce the hazardous impact of electronic waste and preserve the environment through the proper disposal of e-waste. Thus, green computing attains the aim of going green set by the IT industries in terms of public relations and reduced cost. The objective of Green IT is to find and promote new ways of reducing pollution, discovering alternative technologies, and creating more recyclable products; E-waste utilization an approach to green computing is a way to achieve this.

Index words — E-waste, Green IT, Sustainable development, Going green, Green Technology, Energy efficiency, Green use, Energy star.

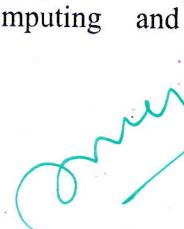

I. INTRODUCTION

The tremendous technological development in the 21st century brought many advantages. However, the growth of the technologies demands

high energy accompanied by intention e-waste and hazardous emissions. As technology is increasing exponentially, contributes more towards global warming and climate change. For these reasons, the world focuses on going green by taking initiatives for green computing through e-waste management. E-waste is one among the fastest-growing waste streams on the earth. Already, we produced something like quartile million tons of e-waste annually. Electronic waste is composed of electrical equipment that is outdated, unwanted, or broken. Anything that runs on electricity that you have decided to get rid of results in e-waste. Globally, we only recycle 10% of our e-waste, a variety that is as shocking because it is depressing. As for the 90% we do not recycle, it finishes up getting landfilled, incinerated, or illegally traded.

Green computing is a well-balanced and sustainable approach towards the achievement of a greener, healthier, and safer environment without compromising the technological needs of the current and future generations. The main goal of green computing is to maximize energy efficiency during the product's lifetime. It involves activities that emphasizes on the tactical deployment of IT to vigorously and ethically align organizations' aims and objectives with environmental protection in mind during the complete industrial operations.

The outline of this paper is structured as Section II describing the e-waste and e-waste management concepts. In section III the green computing and various aspects of green

- All service providers should declare* to TRAI, the carbon footprint of their network operations and therefore the declaration of for an equivalent should be done twice a year.
- Service providers should embrace a Voluntary Code of Practice encompassing energy efficient Network Planning, infra-sharing, deployment of energy-efficient technologies, and adoption of Renewable Energy Technology (RET) to scale back carbon emissions.
- Service providers should evolve a “Carbon Credit Policy” in line with carbon credit norms with the last word the objective of achieving a maximum of fifty over the carbon footprint levels of the bottom Year (2011) in rural areas and achieving a maximum of 66% over the carbon footprint levels of the bottom Year in urban areas by the year 2020.

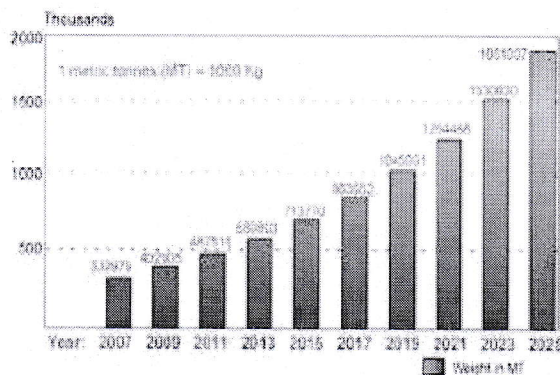


Fig. 6. Graph showing growth of e-waste in India.

IV. CONCLUSION

It is our duty today to seem upon environment-friendly approaches for our sustainable future. Invention, Innovation, and Adaptation of green technologies are that the need of the hour. The risk related to handling this e-waste involves green technologies for end-of-life disposal. e-Waste management practices comprise varied means of ultimate disposal of end-of-life equipment which have different impacts on human health and therefore the environment.

By going "green" in technology we help promote an eco-friendly and cleaner environment, alongside our own benefits by reducing costs, conserving energy, lowering waste. Green computing has come a long way, but with so many innovations coming along regarding preserving the environment, it is safe to say that green computing is a great development. Green computing aims to reduce the garbage and harmful effect of e-waste from our environment. The main goal of e-waste management is to keep the society and environment as a worthy place for living. As there are hindrances and challenges that we face while working with green computing and e-waste together. But the ever-increasing technology has made it easier to work in the field of green computing and e-waste management. All organizations, companies must take e-waste management as compulsory for making green computing an initiative. Otherwise, the world will have to face several problems. It is hoped that there will be a lot of progress that must have done in this field.

V. ACKNOWLEDGMENT

The authors would like to acknowledge Asst. Prof. Arun Padmanabhan, Department of Computer Applications, Saintgits College of Applied Sciences for critically reading the manuscript and giving the direction to modify it.

REFERENCES

- [1] Akther, T., & Ahmed, I. (2020). Review on E-Waste Management Strategies for Implementing Green Computing. *International Journal of Computer Applications*, 177(44), 45-52. doi:10.5120/ijca2020919975
- [2] Chowdhury, S. N., Kuhikar, K. M., & Agnihotri, A. (2015). Green computing: an overview with reference to India. *International Journal of Electrical, Electronics and Computer Systems*
- [3] Debnath, B., Roychoudhuri, R., & Ghosh, S. K. (2016, August 04). E-Waste Management – A Potential Route to Green Computing. doi:10.1016/j.proenv.2016.07.063

Dr. K. K. John
Principal
Saintgits College of Applied Sciences
Kottukulam Hills, Pathamuttom P. O.
Kottayam 686 532, Kerala